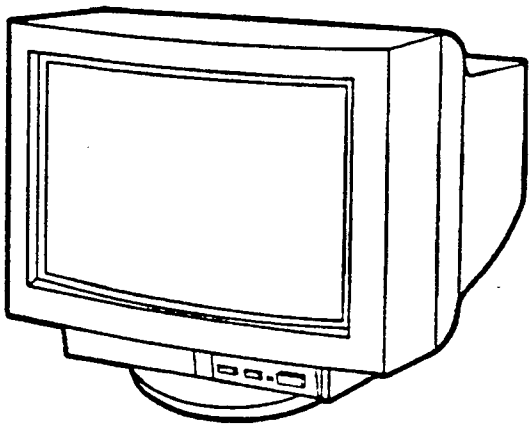
Service Manual

Salcomp Oy
PL14
24101 SALO FINLAND

Chassis 447B

17" Colour Monitor



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Level 1

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PRELIMINARY

Service

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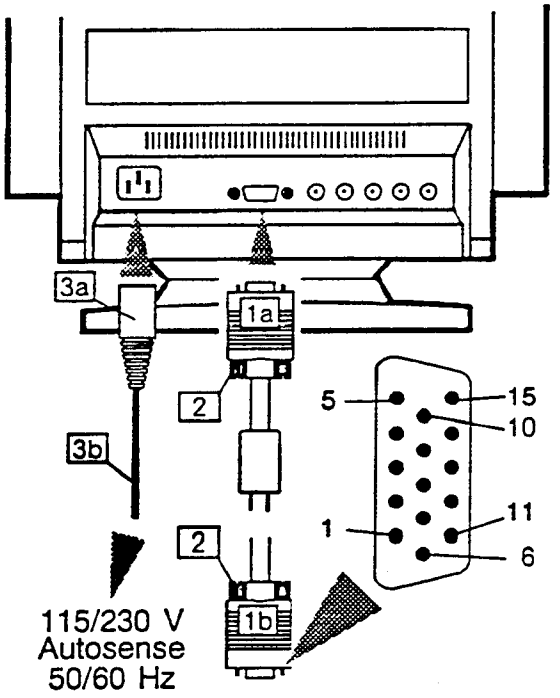
Monitor connection



Pin configuration:

Pin		Signal	
1	<-	RV	RGB Red
2	<-	GV	RGB Green
3	<-	BV	RGB Blue
4	->	ID2	Monitor Identification 1)
5	<-	ST	Self test
6	<-	RG	Ground (red)
7	<-	GG	Ground (green)
8	<-	BG	Ground (blue)
10		LG	Ground (logic)
11	->	ID0	Monitor Identification 1)
12	->	ID1	Monitor Identification (N.C)
13	<-	HS	Horizontal sync.
14	<-	VS	Vertical sync.
9, 15			Not used

1) Pins 4 and 11 are connected together and connected to earth via a 332 ohm resistor inside the monitor.

<- Input

-> Output

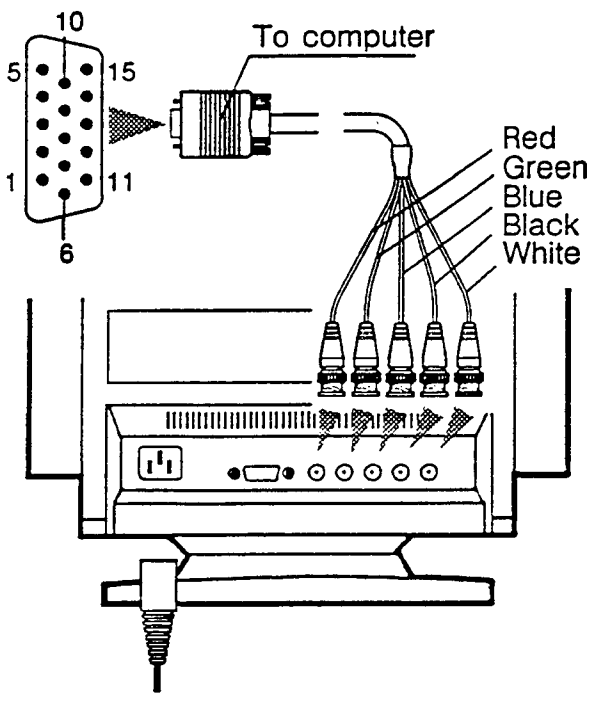
Make sure the power switches of the monitor and the computer are turned off before connecting the monitor.

1 Connect the signal cable to the monitor and to the computer.

2 Tighten the screws.

3 Connect the power cord first to the monitor and then to a grounded power outlet. Turn on the power switches for both the computer and the monitor. The picture will appear within about 30 seconds. Adjust the picture with the relevant adjust buttons to obtain optimum picture quality.

Optional signal cable Accessory



BNC connectors offer an alternative way to connect the monitor to the computer.

Should you use high resolution modes, the optional signal cable reduces interference and gives you improved picture quality.

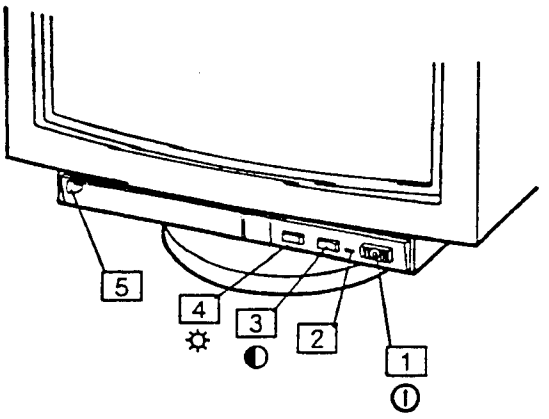
Pin configuration:

Pin		Signal
1	R	Red
2	G	Green
3	B	Blue
4	GND	Ground (White)
5	GND	Ground (Black)
6	GND	Ground (Red)
7	GND	Ground (Green)
8	GND	Ground (Blue)
10	GND	Ground (White)
11	GND	Ground (White)
13	H/HV	Black
14	V	White
9, 12, 15		Not used

Note !

- Do not use both alternatives (D and BNC connectors) at the same time.

Operation



Power switch ⏻

1 Push the power switch to turn the monitor on or off. Demagnetisation takes place automatically when the monitor is switched on.

2 When the power is turned on, the power-on indicator on the front panel will light.

Contrast ◐

3 Select the proper contrast with the rocker switch. Note that excessive contrast causes eye strain. Adjust the contrast adequately according to the ambient light to obtain best picture quality.

Brightness ☼

4 Adjust the brightness with the **rocker switch** according to the ambient light.

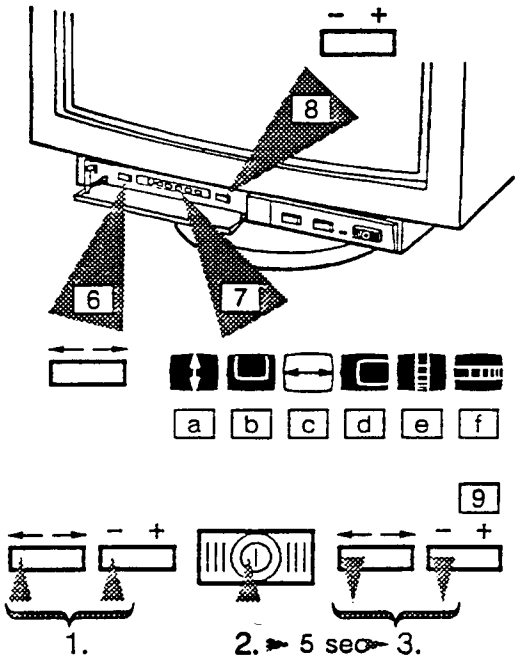
Picture geometry, placement and convergence

5 The adjustment switches are located under the panel. Push lightly to open the door.

6 Select the property to be adjusted with the rocker switch ◄— —►. You may step the adjustments forward with the side indicated with —► and backward with ◄— side.

7 The symbol of the selected adjustment is indicated with light (e.g. picture width c).

8 Adjust each property with the rocker switch +/-. Adjustments are stored automatically.



The following picture properties are adjustable:

a Height
b Vertical centering
c Width
d Horizontal centering
e Vertical convergence
f Horizontal convergence

Convergence

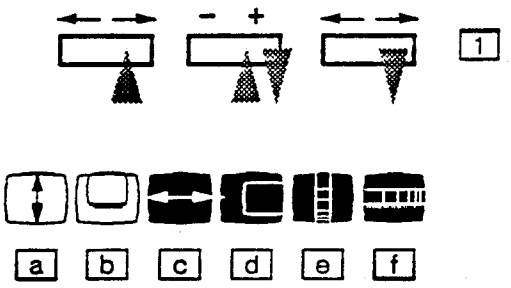
All colours on the screen are generated with three electron beams called red (R) green (G) and blue (B) beam. If the beams do not completely match with each others, the result is convergence error. You will see it e.g. as a coloured narrow line at the edge of white field. Convergence error may be disturbing with certain colours and may cause a stereoscopic effect. Normally there is no need to change the factory preset convergence adjustments.

Returning to the factory adjustments

You may recall the values preset in the factory. Note that returning to the factory preset adjustments deletes all user made settings.
First, switch the monitor off.

9 Press simultaneously ◄— and - switches and release them 5 seconds after the monitor is switched on.

Special adjustments



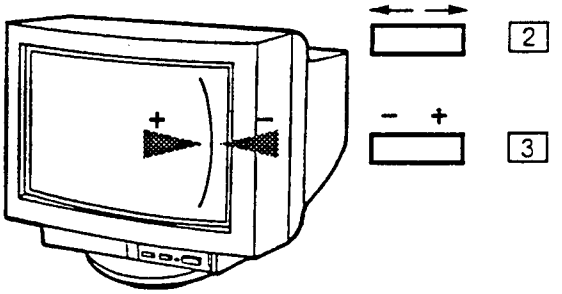
In special adjustment mode it is possible to

- adjust vertical lines straight with east/west correction and
- select one of five preset colour temperatures.

With colour temperature selection you may adjust the tint of the picture. Five preset tints are available.

The tint number 3 is a neutral colour temperature. With tint numbers smaller than 3 the picture becomes **red and with numbers greater than 3 the picture turns blue.**

Entering the special adjustment mode



1 While keeping → switch down, push + switch.

Two leftmost signal lamps a b are indicating the special adjustment mode.

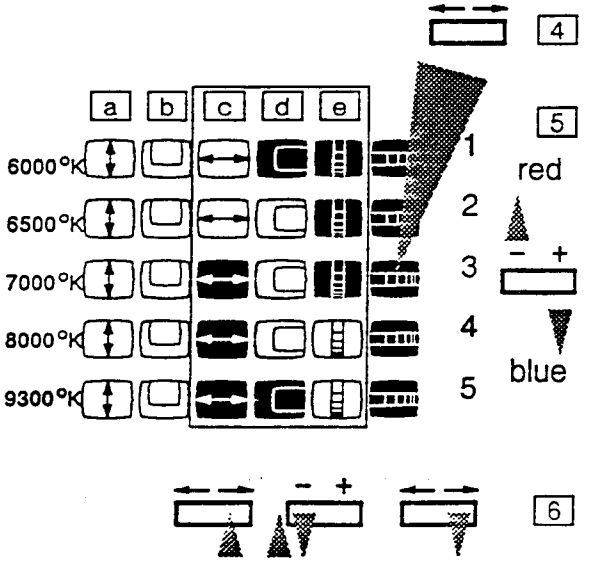
You may toggle now with ← → switch between east/west correction and tint selection. In tint selection mode the signal lamps c d and e indicate the active tint number.

East/west correction

2 Select east/west adjustment with ← → switch. Signal lamps a and b only are lit.

3 Adjust with -/+ switch the vertical lines straight.

The adjustment is stored automatically.



Tint selection

4 Use ← → switch to activate the tint selection mode. If the factory setting has not been changed, tint number 3 is selected.

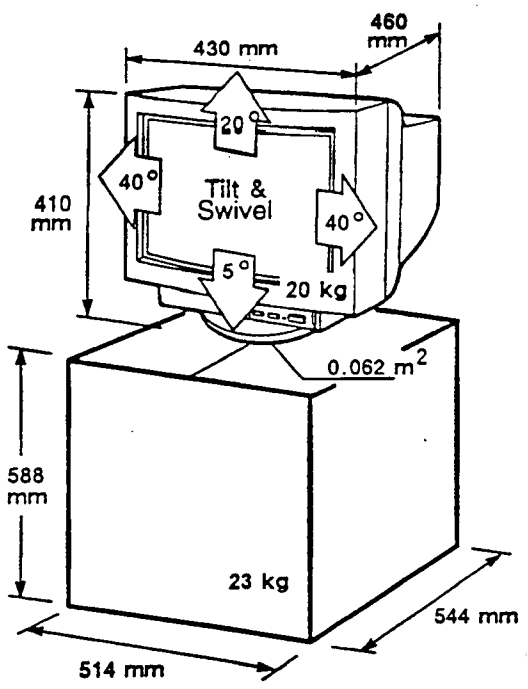
5 Select the tint number with -/+ switch.

The signal lamps c d and e indicate the tint number. The selection is stored automatically.

Returning to the normal mode

6 While keeping → switch down, push - switch.

Technical Specifications



Picture tube	**17" in diagonal** 90° deflection angle Phosphor P22 Dot pitch 0.26 mm Non-glare, dark tint
Active display area .	H: 288 mm V: 216 mm
Display colour	All colours
Power supply	Line voltage: AC 115/230 V +/-15 % autosense Frequency: 60/50 Hz
Power consumption .	< 110 W
Geometric distortion	Within 2.5 mm window in both vertical and horizontal dimensions
Luminance	Min. 80 NIT at center, with full white field
X-radiation	< 0.3 mR/h
Input signal	RGB, analog, positive, max 0.7 V
Video bandwidth	110 MHz
Synchronization	Separate TTL, positive/ negative Composite TTL, positive/ negative Composite, on green, 0.3 Vpp negative
Scanning frequency .	H: 30 to 64 kHz V: 48 to 100 Hz
Ambient temperature	Operating: +10 to +40 °C Packed: -20 to +60 °C
Humidity, relative non-condensing	Operating: 15 to 85 % Packed: 5 to 95 %

Specifications are subject to change without prior notice.

Site Preparation

Location

This Monitor is designed for normal office conditions. It is equipped with own power supply. Since it is not to be serviced or repaired on site, no extra service space or sockets for test instruments are required.

Operator's Troubleshooting

If the monitor does not function properly, proceed as follows:

- Check that the brightness and contrast controls are not set too low.
- Check that the cable to the control equipment is properly connected. Check that the power cord is properly inserted into the power outlet and into the monitor.
- Replace this monitor with another one that you know works.
- If the new monitor works all right, the first monitor was obviously defective. Send it for repair together with a note describing the fault.
- When sending the monitor for repair, use the original packing material.

Local service facilities should perform simple maintenance such as trimming. More advanced maintenance and repair that requires replacement of components which in turn requires testing and retrimming should be carried out in a central workshop.

Workshop Maintenance

Important safety notice

The components, which are important for safety, are marked with special mark ⚠ on the circuit diagram. It is essential that these critical parts should be replaced with manufacture's specified parts to prevent X-RADIATION, shock, fire or other hazards.

Test Equipment

The following test equipment is required to adjust

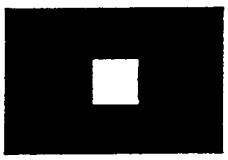
- Safety isolating transformer
- Digital multimeter: Fluke 8060A or equivalent true RMS multimeter
- High Voltage meter
- Signal generator: PC, XT or AT or equivalent with standard VGA/SVGA driver
- TV color analyzer: Minolta TV Color Analyzer II
- Convergence Gauge (CM7AR)
- Oscilloscope

Test Patterns

Black Picture

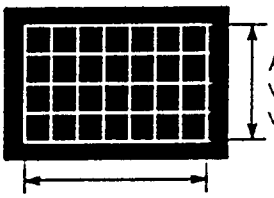
Signal level = 0 V at each RGB input

Highlight grey scale tracking



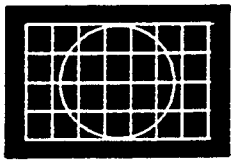
Signal level = 700 mV V in the window at each RGB input

Crosshatch Picture



- Squares e.g. 20 mm x 20 mm
- Outmost lines correspond the active vertical/horizontal video time

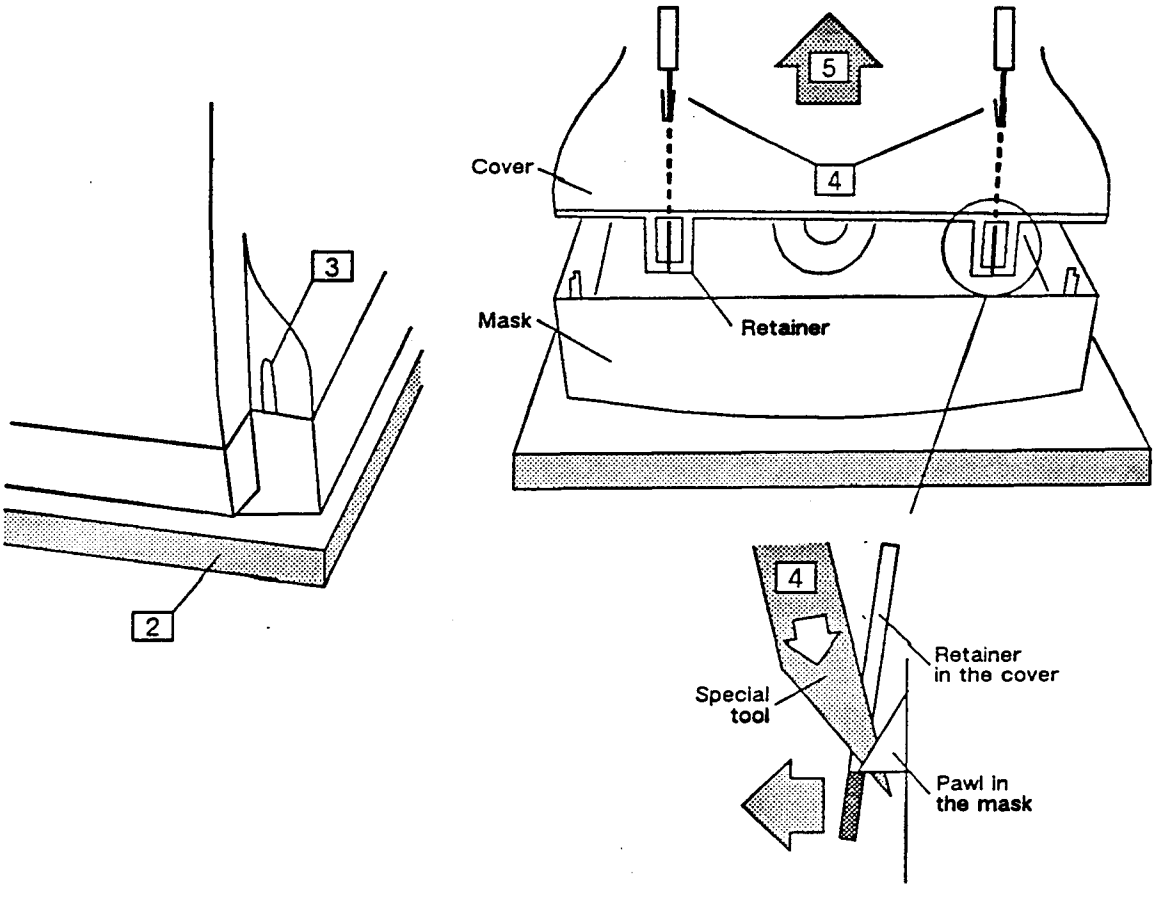
Convergence test pattern



Disassembly

[1] Note that a special tool is needed to open the cabinet.

[2] Set the monitor on cushion picture tube facing down.



[3] Loosen and remove two screws.
[4] Push two special tools carefully into holes in the cover.
[5] Pull the cover.

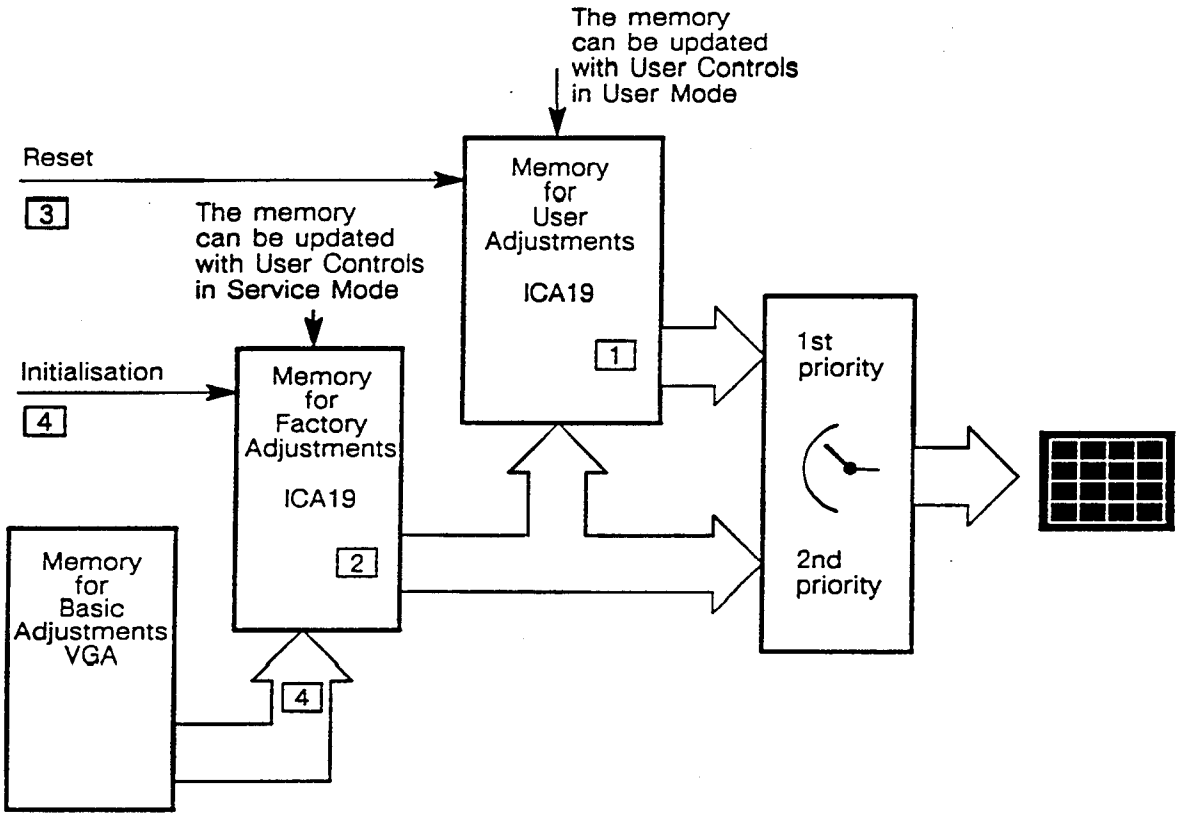
The circuitry is separated into five boards
SMY and SMZ boards which are soldered on the SMA board and
SMM and SMH boards

Management of the Memory for Picture Adjustments

Picture adjustment values are stored in memory ICA19.

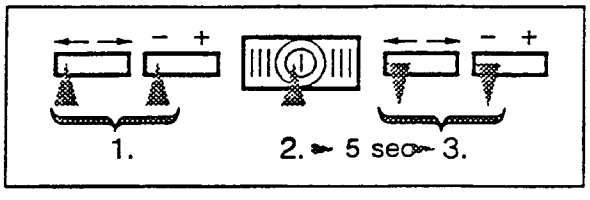
[1] If there are values available in the memory location corresponding to the present timing signals, they are allways used.
- User memory can be updated in normal **user mode** with user controls.
- User memory contains 14 locations for freely programmable timings.

[2] If the memory location mentioned in case [1] is empty, the picture adjustment values are read from memory for factory adjustments.
- Factory adjustments are stored to user memory if any value is adjusted. After that the operation is as in case [1].
- Factory adjustments can be updated in **service mode** with user controls.
- The memory for factory adjustments contains 21 locations.



Resetting the User Memory

[3] User memory can be emptied from all user settings including the timing information. Note that resetting deletes all data in any memory location.

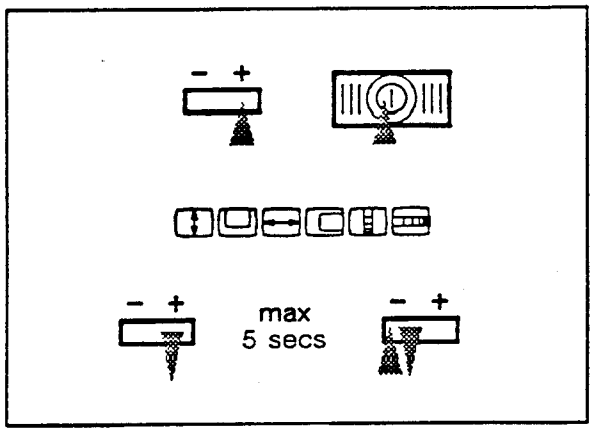


Switch the monitor first off.

- Press simultaneously ← and - switches and release them 5 seconds after the monitor is switched on again.

Initializing the Memory for Factory Adjustments when replacing ICA19

[4] If the memory for factory adjustments is replaced, it must be initialized. During initializing all memory locations are written with approximate values. Switch the monitor first off.



- While keeping + down switch the monitor on with power switch. Release + at once after the indicators
  are litt.
- Push – within five secons after the power is switched on.
- If the initializing **is succesfull, bleep** signal will be given.

Note

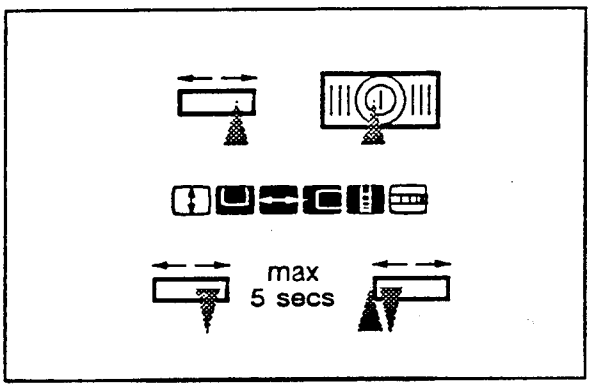
- If you switch the monitor on with empty memory, it is impossible to adjust contrast because both maximum and minimum contrast are equal to zero.

Service Mode

Most of the adjustments are peformed with user keys in service mode. **The values are stored** in nonvolatile memory of the monitor. Only adjustments for operating voltages, focus, convergence and horizontal linearity are performed with trimmers. There is a G2 (SCREEN) potentiometer too but it is kept in minimum and the real G2 voltage has a software adjustment.

Access to the Service Mode

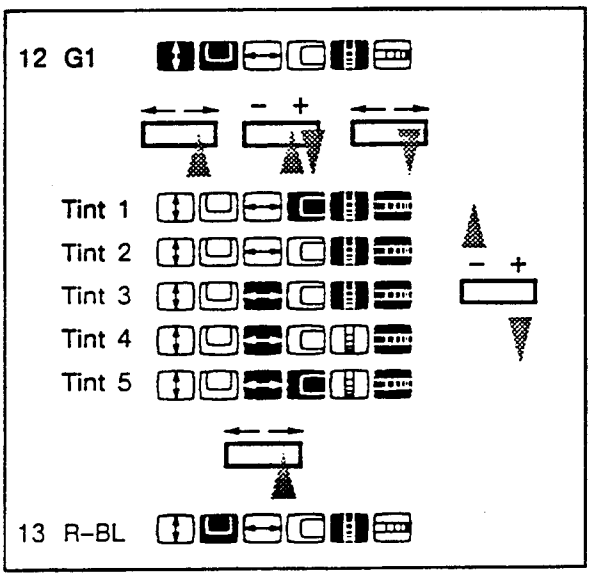
Switch the monitor first off with power switch.



- While keeping → down switch the monitor on with power switch. Release → at once after the indicators
  are litt.
- Push ← within five secons after the power is switched on.

The monitor is now on the first step of the adjustment sequence of 23 steps (refer to the Adjustment table). The adjustments (steps) can be scanned up and down with → and ←. Adjustments are performed with +/– key on each step.

Tint selection



This monitor has five preset tints. When adjusting grey scale, only one tint can be adjusted at a time. The tint selection must be performed at step 12 (G1).

- While keeping → down push +
- Select with +/– the tint you want to adjust
- Use following cordinates when adjusting gray scale

Tint 1:	x= 0.321	y= 0.339
Tint 2:	x= 0.313	y= 0.329
Tint 3:	**x= 0.303**	**y= 0.325**
Tint 4:	x= 0.290	y= 0.316
Tint 5:	x= 0.281	y= 0.311

- Return to the service mode with → (step 13 R-black level). The tint selected at the moment of return will be adjusted.

Storing and Returning to the User mode

Exit from Service Mode by pushing → on the last step (23) in the sequence. At the same time the adjusted values are stored to the memory for factory settings. The monitor turns to normal user mode. If you want to leave the service mode without memorizing, switch off the monitor in service mode.

Adjustment Procedure

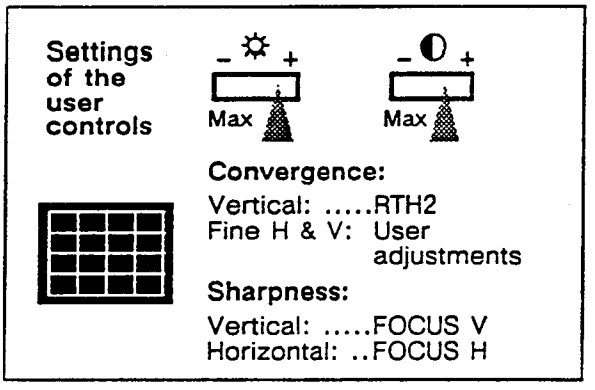
The following procedure must be carried out in case of big service operations e.g. when the nonvolatile memory ICA19 on SMA board has been replaced by a new one.
The order of adjustments explained here has been found to produce the desired result with the minimun of effort. Adjustments can also be made in another order or completely separately.

Connect the signal cable to the PC. Connect the monitor to the safety isolating transformer. Switch on the monitor and the PC. Let the monitor warm up for 20 minutes before starting the adjustments.

Remember

- Degaussing must be carried out before the picture adjustments. Degaussing shall be repeated if the monitor is moved.

Preadjustments



- Select VGA crosshatch test pattern (F3)
- Adjust **G2** until the background raster is faintly visible
- Adjust convergence error in vertical lines to minimum with **RTH2**
- Fine adjust the convergence error to minimum with user controls (ref to chapter Operation)
- Adjust the sharpness:
  - vertically with **FOCUS V** and
  - horizontally with **FOCUS H**

Operating Voltage

- Connect the DVM to 165 V test point (refer to chapter "Trimmer Potentiometers and measuring points"). Adjust trimmer **RTM1** for a voltage of **165V ±1V**.

High Voltage

- Connect the high voltage meter to the anode of the picture tube.
- Adjust the high voltage to **27.0 ±0.3 kV** with **RTA1**

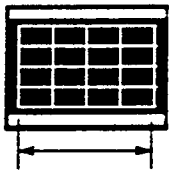
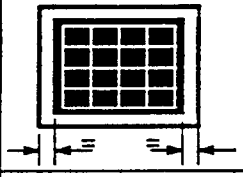
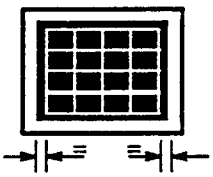
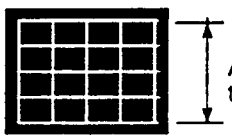
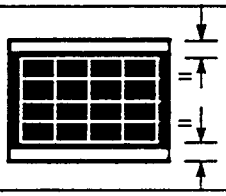
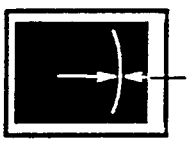
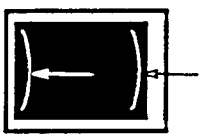
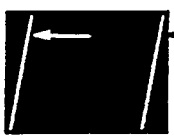
Horizontal Linearity

- Adjust the picture width to the maximum with the horizontal linearity coil **LA5**.
- Reduce the width with **LA5** until the squares are equal in width.

Adjustments in Service Mode

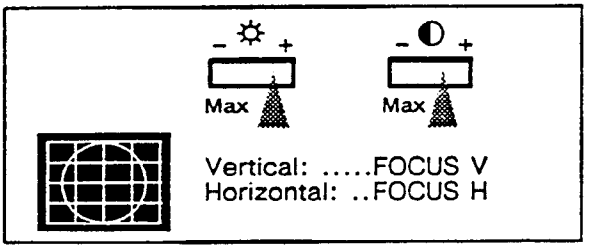
The adjustments in the following table are written in the order they are in the sequence. Note that the order they should be executed in the adjustment procedure is not the same.

- If ICA19 is replaced, remember to initialize it.
- Activate the service mode as told before.
- If you want to store part of the adjustments, step to the last point (23), push once more → and continue activating the service mode again.
- Separate adjustment (steps 1 to 10) must be performed for every sync mode to be stored
- Common adjustments (steps 11 to 22) need to be adjusted only once.
  Note however that the gray scale adjustments must be performed for each tint separately.
- Do not change the sync mode without storing the adjusted values first.

Step up ◄ ► down	Adjustment/Display Note that the symbols in the display has no correlation with the adjustment in the service mode D/A converter/Board	Order of execution/	Effect Adjusting key − +	Conditions − ☼ + Max − ◐ + Max
1	*Width* DAC01 SMZ	*E*	 **Adjust the width to**	
2	*Horizontal shift of raster* DAC04 SMZ	*A*	 **Center the raster** to the mask	If the vertical edges of the raster are not visible, reduce the width in step 1
3	*Picture centering to the raster (Phase)* DAC06 SMA	*B*	 **Center the picture** horizontally to the raster	
4	*Not in use*			
5	*Height* DAC00 SMZ	*G*	 **Adjust the height** to	
6	*Vertical centering* DAC02 SMZ	*F*	 **Center the picture** vertically to the mask	
7	*East/West correction* DAC07 SMZ	*C*	 **Staighten the vertical lines** No pincushion nor barrel	Adjust the width of the picture in step 1 until the outermost vertical lines are near the edge of the mask
8	*East/West balance* DAC03 SMZ	*D*	 **Staighten the outermost vertical lines symmetrically**	
9	*Trapezium correction 1* DAC05 SMZ	*H*	 **Staighten the vertical lines**	
10	*Trapezium correction 2* DAC06 SMZ	*I*	**Staighten the vertical lines**	
		J	Step with → to adj. no 23 and push one more time → if you want to store the adjustments. Activate the service mode again.	

Step up down	Adjustment/Display Note that the symbols in the display has no correlation with the adjustment in the service mode D/A converter/Board	Order of execution/	Effect Adjusting key − +	Conditions Place the colour analyzers probe to the screen
11	*G2* DAC00 SMA	K	Adjust G2 in order to find the most sensitive colour. Mark on the tubes graphite Use coarse steps 13, 15 and 17 to adjust the background visually grey. Do not adjust the most sensitive colour **Adjust for brightness of 5 nits.**	Adjust G2 potentiometer on the SMA board to minimum Max Max
12	*G1* DAC01 SMA			
13	*R black level (coarse)* DAC24 SMH		If G2 adjustment is not enough, go on with G1 adjustment At this step you may select the tint to be affected in gray scale adjustments. If you do not select anything, tint no 3 will be automatically selected. **The colour cordinates given here are valid for tint no 3 only.** Refer to chapter: "Service Mode/Tint Selection"	
14	*R black level (fine)* DAC25 SMH			
15	*G black level (coarse)* DAC22 SMH	L	**Use coarse steps (13, 15 or 17) to adjust** **x = 0.303 ±0.010** **y = 0.325 ±0.010** **Do not adjust the most sensitive colour !** Check that the brightness is 5 nits	
16	*G black level (fine)* DAC23 SMH			
17	*B black level (coarse)* DAC20 SMH	M	**Use coarse steps (13, 15 or 17) and fine steps (14, 16 or 18) to adjust** **x = 0.303 ±0.010** **y = 0.325 ±0.010** **Do not adjust the most sensitive colour !**	Adjust with brightness to 2 nits
18	*B black level (fine)* DAC21 SMH			
19	*G gain* DAC27 SMH	N	**Use steps 19 & 20 to adjust** **x = 0.303 ±0.010** **y = 0.325 ±0.010**	Adjust with backgrond brightness to 2 nits Adjust with brightness in the window to 70 nits
20	*B gain* DAC26 SMH			
21	*Maximum contrast* DAC5 SMA	O	**Adjust brightness in the window to 200 ±15 nits**	Max Max
22	*Minimum contrast* DAC5 SMA	P	Adjust − + to maximum	Max Min
23	*S-capacitor*	Q	Push ◄ ► to store the adjustments **The monitor is now in normal user mode**	**Do not make any adjustments on this step**
User Mode	DAC00 SMZ		User control for height	
	DAC02 SMZ		vertical centering	
	DAC01 SMZ		width	
	DAC02 SMA		horizontal centering	
	DAC03 SMA		**vertical convergence**	
	DAC04 SMA		horizontal convergence	

Focus

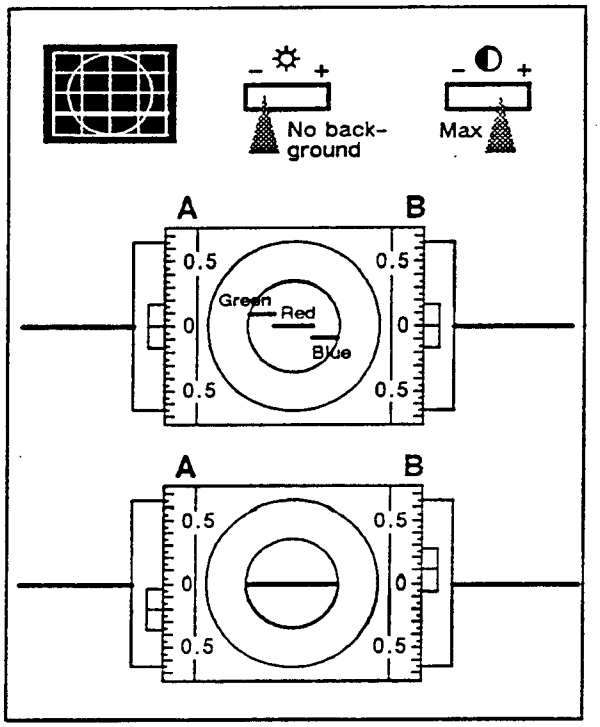


- Adjust the lines sharp on the whole picture area
  - vertically with **FOCUS V** and
  - horizontally with **FOCUS H**

Convergence

Convergence has been set to the optimum in the factory. Readjustment is necessary only in case the adjusting magnets have been accidentally moved.

Using the Klein CM7AR Convergence Gauge



Reduce brightness until the background disappears and adjust contrast to near maximum. Use white crosshatch test pattern with circle.

- Place the gauge on the line with marking **Y up** upwards when measuring horizontal line.
- Place the gauge on the line with marking **X up** upwards when measuring vertical line.
- If the line has convergence error, the line in the window seems to be broken.
- Use knobs A and B to adjust the line continuous.
- If the readings are on the opposite side of zero, the convergence error is A+B (e.g. 0.2 + 0.1 = 0.3).
- If the readings are on the same side of zero, the convergence error is equal to
  A if A > B
  B if B > A

CODE	DESCRIPTION	PG	ITEM NO

SMA103:

AA0633	CF RES 0W25 22R J	1	R	160 161
AA0637	CF RES 0W25 33R J	1	R	095 166
AA0643	CF RES 0W25 56R J	1	R	147
AA0649	CF RES 0W25 100R J	1	R	178 177 176 175 174 171 266 265 279 271
AA0649	CF RES 0W25 100R J	1	R	272 273 276 275 012 011 274
AA0659	CF RES 0W25 270R J	1	R	129
AA0661	CF RES 0W25 330R J	1	R	288 296 295 294 293 292 291
AA0663	CF RES 0W25 390R J	1	R	297
AA0665	CF RES 0W25 470R J	1	R	193 019
AA0667	CF RES 0W25 560R J	1	R	149 150 282
AA0673	CF RES 0W25 1K0 J	1	R	026 298 111 144 145 172 194
AA0675	CF RES 0W25 1K2 J	1	R	280
AA0681	CF RES 0W25 2K2 J	1	R	277 268 173 198
AA0681	CF RES 0W25 2K2 J	1	D	057
AA0683	CF RES 0W25 2K7 J	1	R	269
AA0685	CF RES 0W25 3K3 J	1	R	093 169
AA0689	CF RES 0W25 4K7 J	1	R	006 008 215
AA0693	CF RES 0W25 6K8 J	1	R	143 142
AA0697	CF RES 0W25 10K J	1	R	141 281 283 284 168 167 170 197 289 112
AA0697	CF RES 0W25 10K J	1	R	139
AA0699	CF RES 0W25 12K J	1	R	205
AA0705	CF RES 0W25 22K J	1	R	092
AA0709	CF RES 0W25 33K J	1	R	125
AA0713	CF RES 0W25 47K J	1	R	127
AA0719	CF RES 0W25 82K J	1	R	126
AA0721	CF RES 0W25 100K J	1	R	202 203 204
AA0723	CF RES 0W25 120K J	1	R	181 135
AA0723	CF RES 0W25 120K J	1	R	128
AA0735	CF RES 0W25 390K J	1	R	182
AA0737	CF RES 0W25 470K J	1	R	183
AA0755	CF RES 0W25 2M7 J	1	R	132
AA0757	CF RES 0W25 3M3 J	1	R	134 133 131
AB0593	NF RES 0W25 0R47 J CF	1	R	188 113 151
AB0595	NF RES 0W25 0R56 J CF	1	R	151
AB0609	NF RES 0W25 2R2 J CF	1	R	146
AB0625	NF RES 0W25 10R J CF	1	R	157 158 159 154 155 156 179
AB0815	NF RES 0W5 3R9 J CF	1	R	192
AB0865	NF RES 0W5 470R J CF	1	R	094 091
AD0433	COMPRES 0W5 330K K	1	R	001
AG3101	MF RES 0W5 1R00 F	1	R	186
AG3333	MF RES 0W5 215R F	1	R	148
AG3343	MF RES 0W5 274R F	1	R	007 187
AG3351	MF RES 0W5 332R F	1	R	010
AG3357	MF RES 0W5 383R F	1	R	152
AG3381	MF RES 0W5 681R F	1	R	285 286 287
AG3401	MF RES 0W5 1K00 F	1	R	162 163 189
AG3435	MF RES 0W5 2K26 F	1	R	009
AG3443	MF RES 0W5 2K74 F	1	R	196
AG3481	MF RES 0W5 6K81 F	1	R	195
AG3501	MF RES 0W5 10K0 F	1	R	185
AG3509	MF RES 0W5 12K1 F	3	R	164 165
AG3525	MF RES 0W5 17K8 F	1	R	184
AG3619	MF RES 0W5 154K F	1	R	278
AG3633	MF RES 0W5 215K F	1	R	137 138
AG3701	MF RES 0W5 1M00 F	1	R	136
AJ3243	MO RES 2W0 10K J 6-17	2	R	153
AQ2355	TPMET. H10 47K RM 5X10	3	RT	001
CA0318	CERCAP Y5P 680P M 2KV	2	C	076
CA0322	CERCAP Y5P 2N2 K 1KV Y5: D10	2	C	070
CA0324	CERCAP Y5P 100P K 1KV Y5 D8 L	2	C	074
CA2855	CERCAP Z5U 100N M 50V Y5: 5X6	3	C	
CB0382	CERCAP N150 18P J 50V Y5: D8	1	C	173 174
CB0673	CERCAP N150 100P J 50V	1	C	112 080
CB0673	CERCAP N150 100P J 50V	1	C	
CC0110	CERCAP Y5P 150P K 500V Y5: D8	1	C	088 091
CC0150	CERCAP Y5P 330P K 500V Y5: D8	1	C	052
CC0170	CERCAP Y5P 470P K 500V Y5: D8	1	C	083
CC0264	CERCAP Y5P 3N3 K 50V	1	C	111
CC0284	CERCAP Y5P 4N7 K 50V Y5: D8	1	C	071
CC0530	CERCAP Z5U 4N7 S 500V	1	C	118 123
CC0772	CERCAP Z5V 10N Z 50V Y5: D8	1	C	163 086
CC0853	CERCAP Z5V 100N Z 25V	2	C	167 172 168 158 166 176 178 171
CE0116	Y-CAP 2N2 M 400VAC Y12,5 SDPJ16	4	C	001 002 004 006
CE0215	X2-CAP 680N M 250VAC Y27,5 152533	7	C	003 005
CE2234	IMPCAP 3N3 K 1K5V Y22,5 081628	4	C	054

CODE	DESCRIPTION	PG	ITEM NO	
CE2424	IMPCAP 14N J 1K5V Y22,5 091728	5	C	084 085
CE2802	IMPCAP 51N J 400V Y15 081418	3	C	109
CE2933	IMPCAP 100N K 400V Y15 091518	4	C	108
CE3020	IMPCAP 220N K 250V Y15 081518	3	C	107
CE3113	IMPCAP 470N J 250V Y22,5 112128	5	C	106 092
CE3203	IMPCAP 1U0 J 250V Y22,5 091928	7	C	104 105
CE3252	IMPCAP 1U5 J 400V Y27,5 122132	8	C	072
CK1388	PESCAP MKT 10N K 250V Y7,5 040911	2	C	062 082
CK1786	PESCAP MKT 470N K 63V Y7,5 051211	4	C	081 117
CK2626	PESCAP MKT 100N K 63V	2	C	079 067
CK2664	PESCAP MKT 150N K 63V	2	C	164
CN0154	ELCAP 1U0 M 50V	1	C	068 177 175
CN0207	ELCAP 2U2 M 350V	3	C	095 093
CN0258	ELCAP 4U7 M 50V	1	C	096 053 098 097 103 102 101
CN0258	ELCAP 4U7 M 50V	1	C	175
CN0260	ELCAP 4U7 M 100V	2	C	124 122
CN0305	ELCAP 10U M 100V	8	C	073
CN0308	ELCAP 10U M 50V	1	C	
CN0372	ELCAP 22U M 50V	3	C	157
CN0423	ELCAP 47U M 50V	2	C	165
CN0519	ELCAP 220U M 16V	2	C	021
CN0606	ELCAP 470U M 35V RM5 14X22	5	C	012
CN0727	ELCAP 1000U M 25V	4	C	077 078
CN0817	ELCAP 2200U M 25V RM7,5 17X33	5	C	113
CN2469	ELCAP 47U M 200V RM7,5 105'17X27	6	C	063
CN2521	ELCAP 100U M 25V	2	C	014 011 013 089
CN2539	ELCAP 100U M 50V	3	C	075 115
CN2589	ELCAP 220U M 35V	4	C	114
FJ0284	CHOKE 90UH	4	L	004
FJ0429	CHOKE 33UH 10% AXIAL	4	L	003
FJ0505	CHOKE 15UH 5% AXIAL	2	L	002
FJ0516	CHOKE 1MH 5% AXIAL	2	L	006 007
FJ1809	INPUT CHOKE 9MH	13	M	002 003
FM0609	FLYBACK TRAFO 30...65KHZ 3NF	41	M	007
FM2503	INPUT COIL E20/6 1M4H	15	M	006 009
FM2504	INPUT COIL E20/6 4MH	15	M	008
FM2504	INPUT COIL E20/6 4MH	15	L	008
FU1214	LINEARITY COIL	13	L	005
FY0266	FERRITE RING 3.5X1.3X4.3MM F2	1	FR	001 002 010 009
JF0025	DI 1N4148 75V 200MA 4N	1	D	065 066 061 058 062 063 023 024
JF0025	DI 1N4148 75V 200MA 4N	1	D	021 018 041 025 037
JF0032	DI UF4007 1000V 1A 75N DO41/SOD57	6	D	029 031 032 033 036
JF0060	DI 1N4002 100V 1A	1	D	044
JF0072	DI BAV21 200V 250MA 50N	1	D	046 028 048 047
JF0073	DI RGP10G 400V 1A 150N	4	D	026 027 038 039 040 035
JF0106	DI UF2D-7000 200V 2A 50N MUOVI	3	D	022 034
JH0054	ZDI BZX83C12 12V 0.5W 5%	1	DZ	001 005
JH0062	ZDI BZX83C15 15V 0.5W 5%	1	DZ	003 004 006
JH0089	ZDI BZX79B5V1 5.1V 0.5W 2%	2	DZ	010
JL0038	LED TLHG5402 5MM GREEN	3	DL	001 002 003 004 005 006 007
JL0043	LED LTL3233-022	10	DL	008
JM0099	TR BC547B N 45V 100A 200M:	1	T	001 045
JM0100	TR BC557B P 45V 100A 200M:	1	T	014 026 037 038
JM0239	TR BC638 P 60V 1A 50M:	4	T	035 015
JM0244	TR BF422 N 250V 25MA 60M:	2	T	033 032 031 042
JM0280	TR 2N5401 P 150V 0.6A 100M	2	T	026
JM0310	TR 2SC4152 1500V 0.1A	8	T	027
JS0012	FET IRF9610 P 200V 1,75A TO220	11	TF	052 054
JS0019	FET IRF640 N 200V 18A TO220	13	TF	061 062 063 064 065 066
JS0026	FET IRFBC40 N 600V 6.0A TO220 AB	10	TF	060 051 055 056 057 058 059
JZ0005	SILICONE INSUL PAD 19*13*0.22MM	1		
LM0340	IC TDA2040V AUDIO POWER AMPLIFIER	14	IC	010
LM0404	IC 7406N 6XINVERTER BUFFER	4	IC	020
LM0586	IC LM317T VOLTAGE REGULATOR	10	IC	001
LM0603	IC LM2940CT LOW DROP REG.5V TO220	8	IC	002
LM0604	IC TDA8172 TV VERT.DEFLECTION	11	IC	011
LM0631	IC X2404 SERIAL EEPROM 512X8	24	IC	019
LM0642	IC CPU 80C31 DIL-40	20	IC	021
LM0660	IC 27C256 250 NS UV-ERASABLE PROM	24	IC	023
LM0701	IC 74HCT377 8XD-TYPE FLIP FLOP	6	IC	025
LM0777	IC TDA8444 6-BIT OCT.DAC DIL-16	15	IC	017 018
LM0779	IC 74HCT573 8XLATCH 3-STATE DIL20	6	IC	022
LM0787	IC74HC390 4-STAGE RIPPLE COUNTER	8	IC	024
QA0099	CRYSTAL 12.0 MHZ HC-49/U	30	X	002
QG0320	MIN. ROCKER SWITCH 20V/0,4VA	17	K	002 003 004 005
QG0321	PUSH-BUTTON SWITCH 250V 6/64A SNA	14	K	001
QH0066	RELAY PCB-MOUNTING 12V 10A/250V	14	X	001

CODE	DESCRIPTION	PG	ITEM NO		
QK1227	ROW CONN 1X07 2,5 VERT STG LOCK	2	A	009	
QK1229	ROW CONN 1X09 2,5 VERT STG LOCK	3	A	017	
QK1230	ROW CONN 1X10 2,5 VERT STG LOCK	3	A	003	
QK1233	ROW CONN 1X13 2,5 VERT STG LOCK	3	A	002	
QK1236	ROW CONN 1X16 2,5 VERT STG LOCK	3	A	013	
QK1294	PIN JACK (RCA) FEMALE BCB RED 90	4	A	019	
QK1295	PIN JACK (RCA) FEMALE PCB WHI 90	4	A	018	
QK1372	MAINS CONN MALE FOR PCB 90-DEG	8	A	001	
QK1376	PHONE JACK 3,5MM FEMALE PCB 90	5	A	015 016	
QK1415	CRIPLET CONN FOR 2-SIDED PCB	1			
QK1492	SP CONN PLUG 2-PIN (SMK)	2	A	014	
QK1493	CONN PLUG CMI 1506-0301 FOR DY	4	A	020	
QK1502	HIGH DENSITY D-15 CONN., FEMALE	14	A	012	
QK1563	BNC-CONN FEMALE 90-DEG 75OHM PCB	14	A	007 004 005 006 008	
QP0402	PIEZO BUZZER 21MM 9VDC 3KHZ	13	X	001	
QT0102	FUSEHOLDER CLIPS 5*20MM R=5,0MM	1	F	001	
QT0718	FUSE 5*20MM T 2,5A 250V IEC127	2	F	001	
SE2027	JOHTO G2 44BF L=300 SI	6			
SE2346	VERKKOKYTKIN JOHTONIPPU 447B	6			
SE2361	VERKKOKYTK.JOHTONIPPU 447B L=380	6			
SE2362	VERKKOKYTK.JOHTONIPPU 447B L=300	6			
UC0859	TYRISTORIN KIINNITYSJOUSI PN44473	2			
UC1140	JÄÄHDYTYSLEVY PN45154 1H-1G KUPAR	2	IC	001 002	
UC1140	JÄÄHDYTYSLEVY PN45154 1H-1G KUPAR	2	TF	051 052 054 066 065 064	
UC1140	JÄÄHDYTYSLEVY PN45154 1H-1G KUPAR	2	T	027	
UC1140	JÄÄHDYTYSLEVY PN45154 1H-1G KUPAR	2	IC	010	
UC2282	JÄÄHDYTYSLEVY PN302099 41DL	15	IC	011	
UC6525	JÄÄHDYTYSLEVY 447B PN201127	14			

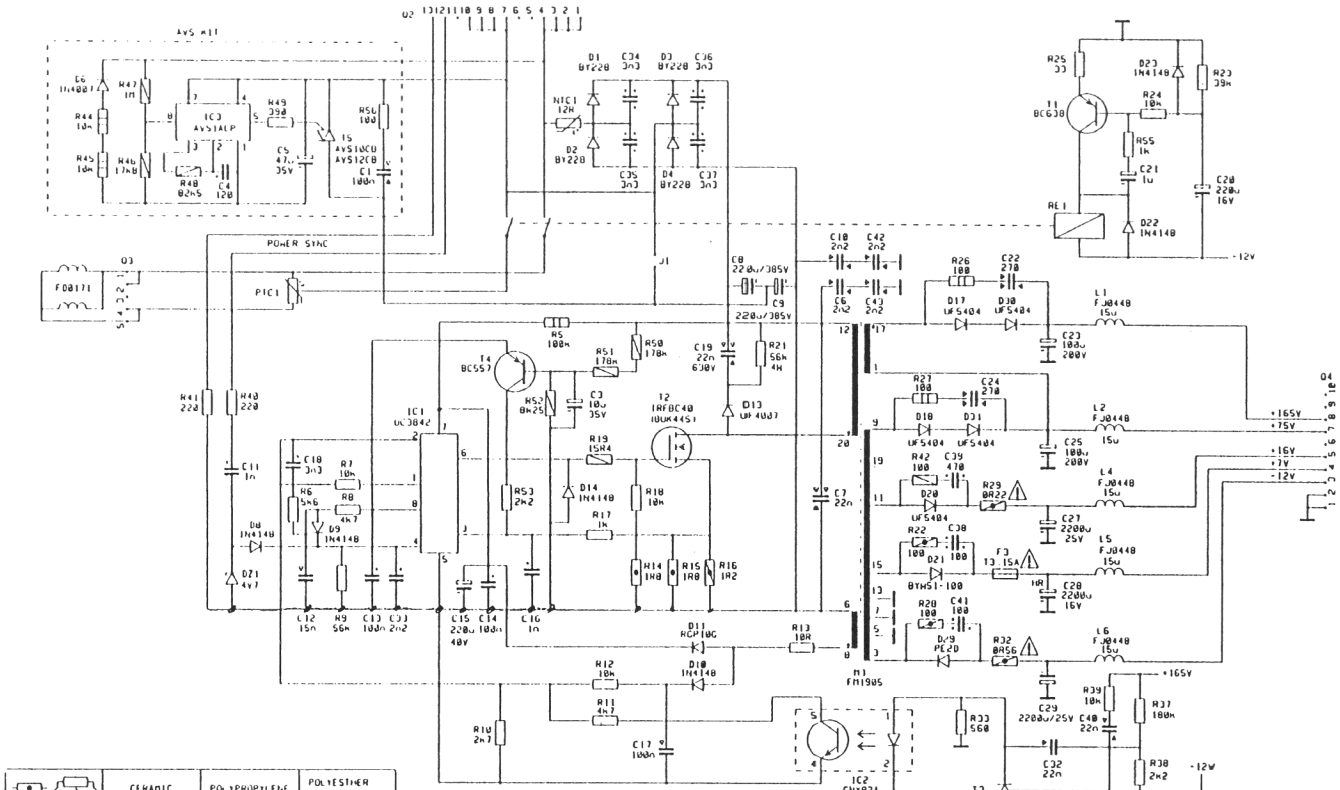
SELECT
POLAR
CLAMP SEL
V SYNC OUT
V SYNC ICOMPI
CLAMP
H FREQ
PHASE IFACTORYI
PHASE
PHASE IDETI
OSC RANGE
LINE OSC
LINE DRIVE
X-RAY LIMIT
H/HV IN
V IN
HV FEEDBACK
LINE OSC
LINE DRIVE
PHASE DET
V SYNC
V SYNC ICOMPI
H CENT
WIDTH DRIVE
V DRIVE
V DIN FOC
HV E.L
HV DRIVE
POWER SYNC
FERRIT 7
FUJI481
FUJI482
LM317T
LM337T
BC547
BC557
2N2907
2N2369
BAY21
1N4148
74HC32
74HC390
74HC393
74HC4066
74HC4051
74HC259
74HC573
74HC138
74HC245
74HC4538
74HC4017
74HC4040
74HC4060
74HC4020
74HC4024
74HC4046
74HC4053
74HC4075
74HC4078
74HC4094
74HC4511
74HC4543
74HC4514
74HC4515
74HC4516
74HC4518
74HC4520
74HC4521
74HC4538

CODE	DESCRIPTION	PG	ITEM NO

SMM040:

AA0637	CF RES 0W25 33R J	1	R	025
AA0649	CF RES 0W25 100R J	1	R	043
AA0657	CF RES 0W25 220R J	1	R	040 041
AA0663	CF RES 0W25 390R J	1	R	049
AA0667	CF RES 0W25 560R J	1	R	033
AA0673	CF RES 0W25 1K0 J	1	R	017 035
AA0681	CF RES 0W25 2K2 J	1	R	038 053
AA0683	CF RES 0W25 2K7 J	1	R	010
AA0685	CF RES 0W25 3K3 J	1	R	034
AA0689	CF RES 0W25 4K7 J	1	R	011 008
AA0691	CF RES 0W25 5K6 J	1	R	006
AA0697	CF RES 0W25 10K J	1	R	007 018 012 024 039
AA0711	CF RES 0W25 39K J	1	R	023
AA0715	CF RES 0W25 56K J	1	R	009
AA0727	CF RES 0W25 180K J	1	R	037
AA0945	CF RES 0W5 1M0 J	1	R	047
AB0607	NF RES 0W25 1R8 J CF	1	R	014 015
AB0625	NF RES 0W25 10R J CF	1	R	013
AB0785	NF RES 0W5 0R22 J CF	2	R	029
AB0795	NF RES 0W5 0R56 J CF	2	R	032
AB0803	NF RES 0W5 1R2 J CF	1	R	016
AB0849	NF RES 0W5 100R J CF	1	R	042
AG3219	MF RES 0W5 15R4 F	1	R	019
AG3489	MF RES 0W5 8K25 F	1	R	052
AG3525	MF RES 0W5 17K8 F	1	R	046
AG3589	MF RES 0W5 82K5 F	1	R	048
AG3625	MF RES 0W5 178K F	1	R	051 050
AJ2763	MO RES 2W0 100R J 6-17	2	R	026 027
AJ3243	MO RES 2W0 10K J 6-17	2	R	044 045
AJ3425	MO RES 4W0 56K J 9-22	3	R	021
AJ3483	MO RES 2W0 100K J 6-17	2	R	005
AQ2325	TPMET. H10 470R RM 5X10	3	RT	001
AW0035	DUAL-PTC	7	PTC	001
AW0112	NTC-THERMISTOR 12R/25'C	6	NTC	001
CB0732	CERCAP N150 120P J 50V	1	C	004
CC0170	CERCAP Y5P 470P K 500V Y5: D8	1	C	039
CC0174	CERCAP Y5P 470P K 50V Y5: D8	1	C	011
CC0204	CERCAP Y5P 1N0 K 50V Y5: D6	1	C	033 016
CC0264	CERCAP Y5P 3N3 K 50V	1	C	018
CC0513	CERCAP Y5V 3N3 S 1KV Y7,5 D14	2	C	035 036 037 034
CC0853	CERCAP Z5V 100N Z 25V	2	C	014 013
CE0116	Y-CAP 2N2 M 400VAC Y12,5 SDPJ16	4	C	010 042 006 043
CE2004	IMPCAP 100P K 1K6V Y15 051118	3	C	022 024
CK0163	PESCAP MKT 22N K 250V	2	C	040
CK0165	PESCAP MKT 22N K 630V	2	C	019
CK0169	PESCAP MKT 22N M 1KV Y15 071318	3	C	007
CK2424	PESCAP MKT 15N K 63V	2	C	012
CK2464	PESCAP MKT 22N K 63V	2	C	032
CK2626	PESCAP MKT 100N K 63V	2	C	017
CN0087	ELCAP 220U M 385V R10 SNAP 26:52	16	C	009
CN0308	ELCAP 10U M 50V	1	C	003
CN0423	ELCAP 47U M 50V	2	C	005
CN0519	ELCAP 220U M 16V	2	C	020
CN0817	ELCAP 2200U M 25V RM7,5 17X33	5	C	027 029
CN2521	ELCAP 100U M 25V	2	C	031
CN2589	ELCAP 220U M 35V	4	C	015
CN3422	ELCAP,2200U M 16V RM7,5+105'17X38	9	C	028
CN3901	ELCAP,100U 200V R10+105'SNP 24.34	10	C	023 025
FJ0448	CHOKE 15UH	2	L	001 002 004 005 006
FM1905	SMPS-TRAFO ETD49	21	M	003
JB0034	DI BY228 1500V 2.5A 20U	4	D	001 002 003 004
JF0025	DI 1N4148 75V 200MA 4N	1	D	023 022 008 009 010 014
JF0032	DI UF4007 1000V 1A 75N DO41/SOD57	6	D	013
JF0033	DI UF5404 400V 3A 50NS	4	D	017 030 018 031 020
JF0067	DI 1N4007 1000V 1A	1	D	006
JF0073	DI RGP10G 400V 1A 150N	4	D	011
JF0101	DI FEP16BT 100V 20A 35N	12	D	021
JF0106	DI UF2D-7000 200V 2A 50N MUOVI	3	D	029
JH0064	ZDI BZX83C9V1 9.1V 0.5W 5%	3	DZ	002
JH0086	ZDI BZX83C4V7 4.7V 0.5W 5%	2	DZ	001
JL0066	OPTOCOUPLER CNX82A 3750VRMS	7	IC	002
JM0100	TR BC557B P 45V 100A 200M:	1	T	004
JM0239	TR BC638 P 60V 1A 50M:	4	T	001
JS0026	FET IRFBC40 N 600V 6.0A TO220 AB	10	T	002
JX0010	TRIAC AVS10CB 600V 8A TO220	10	T	005

CODE	DESCRIPTION	PG	ITEM NO		
JZ0005	SILICONE INSUL. PAD 19*13*0.22MM	1			
LM0663	IC TL431 VOLTAGE REFERENCE TO-92 ...	6	IC	003	
LM0763	IC UC3842 CURRENT MODE PWM CONT...	12	IC	001	
LM0815	IC AVS1ACP08 VOLT SWITCH CONTR.	14	IC	003	
QH0065	RELAY PCB-MOUNTING 12V 5A/250V	12	RE	001	
QK1080	MODULE CONN 1X13 2,5 90-DEG	6	Q	002	
QK1285	ROW CONN 1X05 5,08/7,62 VERT/LOCK ...	3	Q	003	
QK1478	MODULE CONN 1X10 2,5 90-DEG	7	Q	004	
QT0733	FUSE R=5,0MM T 3,15A 250V IEC127	4	F	003	
UC0859	TYRISTORIN KIINNITYSJOUSI PN44473 ...	2	T	002	
UC0859	TYRISTORIN KIINNITYSJOUSI PN44473 ...	2	D	021	
UC1140	JÄÄHDYTYSLEVY PN45154 1H-1G KUPAR .	2	D	021	020
UC1140	JÄÄHDYTYSLEVY PN45154 1H-1G KUPAR .	2	D	031	
UC1278	JÄÄHDYTYSLEVY PN301160 1H AKKULAI ..	5	T	002	
UC1371	TRANSJÄÄHDYTYSLEVY PN45940 14*AC ..	3	T	005	



	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

NB Safety components marked with ⚠ must be replaced with original or approved components only.

All printed boards are also safety components.

The manufacturer reserves the rights to change the design and specification without prior notice or warning.

SMM040D 53004D

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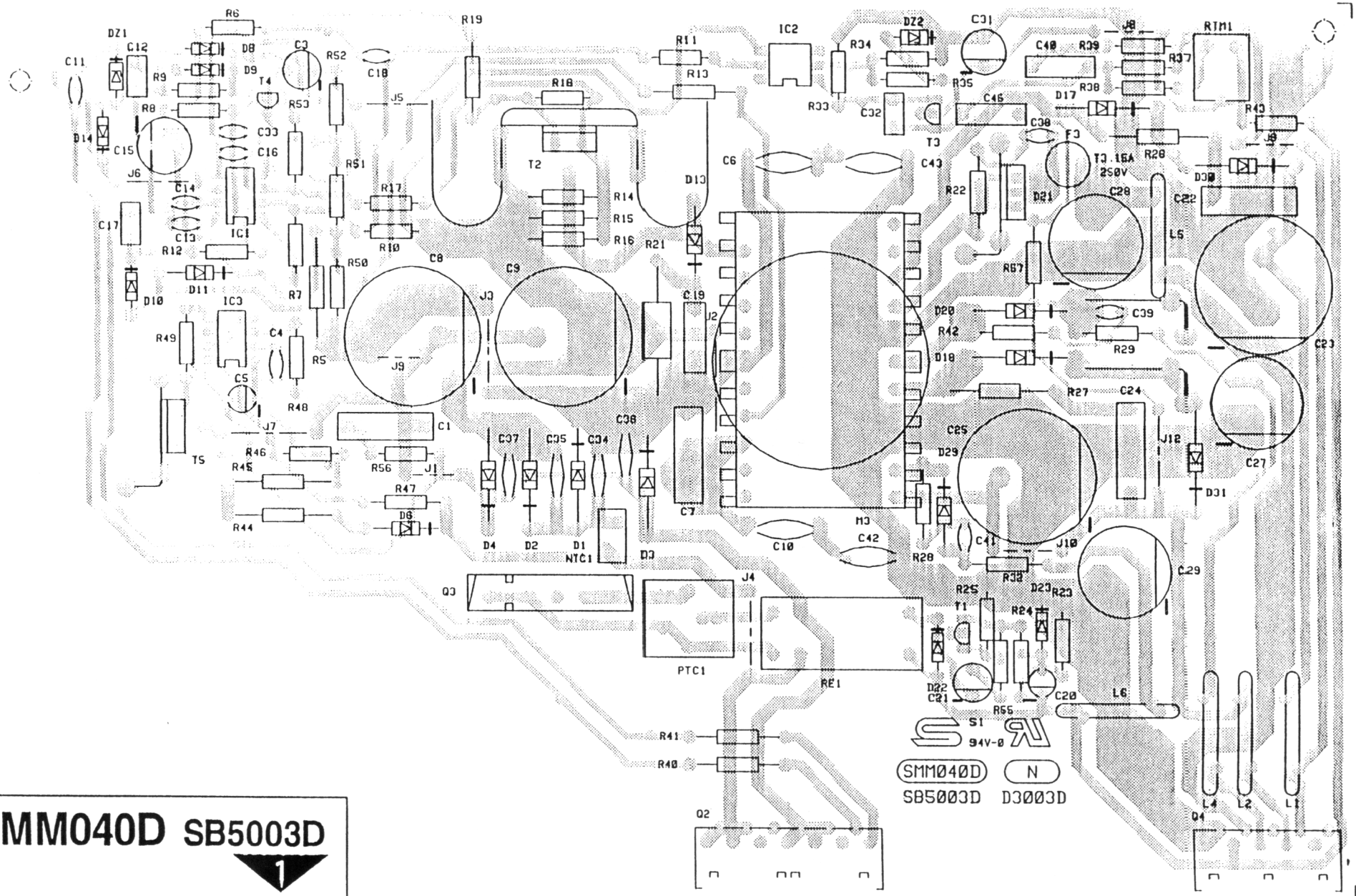

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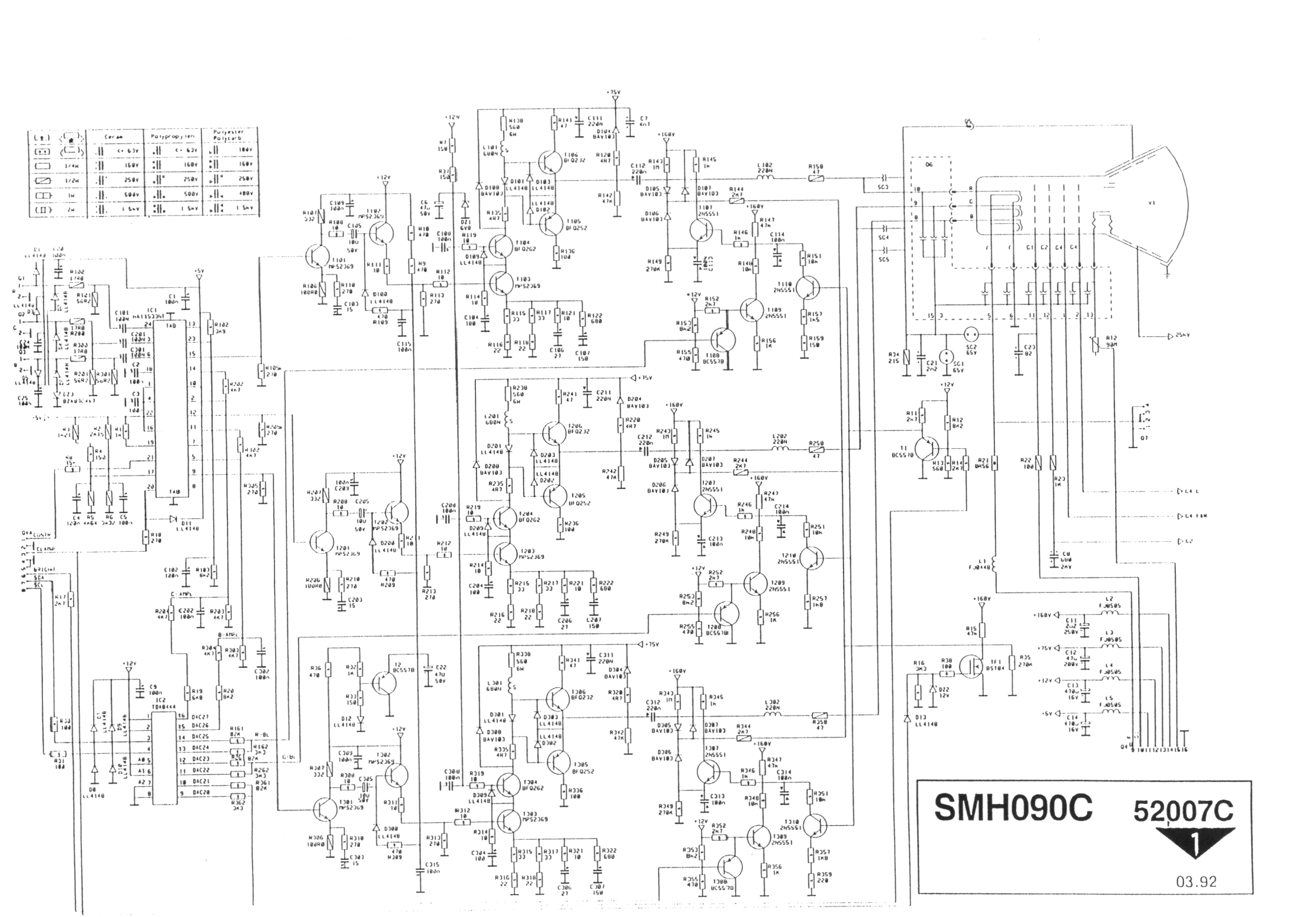
CODE	DESCRIPTION	PG	ITEM NO
AA0713	CF RES 0W25 47K J	1	RH 147 247 347 015
AA0731	CF RES 0W25 270K J	1	RH 035
AA0883	CF RES 0W5 2K7 J	1	RH 144 244 344
AB0595	NF RES 0W25 0R56 J CF	1	RH 021
AC8617	CHIPRES 0W12 4R7 J	1	RH 135 235 335
AC8625	CHIPRES 0W12 10R J	1	RH 108 208 308 111 211 311 114 112 212 312
AC8625	CHIPRES 0W12 10R J	1	RH 320
AC8625	CHIPRES 0W12 10R J	1	R 214 314 121 221 321 119 219 319 120 220
AC8633	CHIPRES 0W12 22R J	1	RH 116 216 316 118 218 318
AC8637	CHIPRES 0W12 33R J	1	RH 115 215 315 117 217 317
AC8641	CHIPRES 0W12 47R J	1	RH 141 241 341 136 236 336
AC8649	CHIPRES 0W12 100R J	1	RH 030 031
AC8653	CHIPRES 0W12 150R J	1	RH 159 033 004
AC8657	CHIPRES 0W12 220R J	1	RH 359
AC8659	CHIPRES 0W12 270R J	1	RH 305 205 105 113 213 313 018 110 210 310
AC8661	CHIPRES 0W12 330R J	1	RH 007
AC8665	CHIPRES 0W12 470R J	1	RH 155 255 355 009 010 109 209 309 036
AC8667	CHIPRES 0W12 560R J	1	RH 013
AC8669	CHIPRES 0W12 680R J	1	RH 122 222 322
AC8673	CHIPRES 0W12 1K0 J	1	RH 145 245 345 146 246 016 001 346 032
AC8677	CHIPRES 0W12 1K5 J	1	RH 156 256 157 356
AC8679	CHIPRES 0W12 1K8 J	1	RH 257 357
AC8683	CHIPRES 0W12 2K7 J	1	RH 162 152 252 352 011 262 362 017 014
AC8687	CHIPRES 0W12 3K9 J	1	RH 102
AC8689	CHIPRES 0W12 4K7 J	1	RH 202 203 302 303 304 204
AC8693	CHIPRES 0W12 6K8 J	1	RH 019
AC8695	CHIPRES 0W12 8K2 J	1	RH 103 012 153 253 353 020
AC8697	CHIPRES 0W12 10K J	1	RH 351 148 248 348 151 251
AC8699	CHIPRES 0W12 12K J	1	RH 008
AC8719	CHIPRES 0W12 82K J	1	RH 161 261 361
AC8723	CHIPRES 0W12 120K J	1	RH 142 242 342
AC8731	CHIPRES 0W12 270K J	1	RH 149 249 349
AC8745	CHIPRES 0W12 1M0 J	1	RH 143 243 343
AD0341	COMPRES 0W5 47R K	3	RH 158 258 358
AD0349	COMPRES 0W5 100R K	1	RH 022
AD0373	COMPRES 0W5 1K0 K	1	RH 023 025 024
AG3225	MF RES 0W5 17R8 F	1	RH 100 200 300
AG3273	MF RES 0W5 56R2 F	1	RH 301 101 201
AG3301	MF RES 0W5 100R F	1	RH 106 206 306
AG3333	MF RES 0W5 215R F	1	RH 034
AG3351	MF RES 0W5 332R F	1	RH 107 207 307
AG3409	MF RES 0W5 1K21 F	1	RH 003
AG3433	MF RES 0W5 2K15 F	1	RH 002
AG3443	MF RES 0W5 2K74 F	1	RH 144 244 344
AG3451	MF RES 0W5 3K32 F	1	RH 006
AG3465	MF RES 0W5 4K64 F	1	RH 005
AJ2947	MO RES 6W0 560R J	4	RH 138 238 338
AP1020	PMET 90M 4KV 1-230-798-21	13	RTH 002
CA0318	CERCAP Y5P 680P M 2KV	2	CH 008
CB0658	CERCAP N750 82P J 500V	1	CH 023
CB4129	CHIPCAP NP0 15P J 50V	1	CH 103 203 303
CB4131	CHIPCAP NP0 18P J 50V	2	CH 106
CB4135	CHIPCAP NP0 27P J 50V	2	CH 306
CB4139	CHIPCAP NP0 39P J 50V	2	CH 206
CB4151	CHIPCAP NP0 100P J 50V	2	CH 104 204 304
CB4155	CHIPCAP NP0 150P J 50V	2	CH 107 207 307
CC0240	CERCAP Y5P 2N2 K 500V	1	CH 021
CC0530	CERCAP Z5U 4N7 S 500V	1	CH 007
CC4855	CHIPCAP Y5V 100N Z 50V	3	CH 001 002 003 004 005 102 202 302 009 020
CC4855	CHIPCAP Y5V 100N Z 50V	3	C 108 109 115 208 209 315 308 309 101 201
CC4855	CHIPCAP Y5V 100N Z 50V	3	CH 301
CK0284	PESCAP MKT 100N K 250V	2	CH 213 113 114 214 313 314
CK0341	PESCAP MKT 220N K 100V	3	CH 112 212 312 111 211 311
CN0207	ELCAP 2U2 M 350V	3	CH 011
CN0308	ELCAP 10U M 50V	1	CH 105 205 305
CN0423	ELCAP 47U M 50V	2	CH 022
CN0604	ELCAP 470U M 16V	3	CH 014 013
CN2467	ELCAP 47U M 200V	5	CH 012
CN3245	ELCAP, 47U M 50V	4	CH 006
FA0018	CHIP COIL 680NH 10% SIZE	3	LH 101 201 301
FJ0448	CHOKE 15UH	2	LH 001
FJ0505	CHOKE 15UH 5% AXIAL	2	LH 002 003 004 005
JF4003	DI BAV103 200V 250MA 50NS SOD-80	7	DH 206 306 107 207 307
JF4003	DI BAV103 200V 250MA 50NS SOD-80	7	DH 104 204 304 108 208 308 105 205 305 106
JF4005	DI LL4148 75V 150MA 4N	1	DZ 001 002 003

CODE	DESCRIPTION	PG	ITEM NO
JF4005	DI LL4148 75V 150MA 4N	1	D 006 007 008 009 010 100 200 300
JF4005	DI LL4148 75V 150MA 4N	1	DH 101 201 301 103 203 303 102 202 302 011
JF4005	DI LL4148 75V 150MA 4N	1	D 001 002 003 004 005 109 209 309 012
JH0054	ZDI BZX83C12 12V 0.5W 5%	1	DZH 002
JH0058	ZDI BZX83C6V8 6.8V 0.5W 5%	1	DZH 001
JH0086	ZDI BZX83C4V7 4.7V 0.5W 5%	2	TH 003
JM0100	TR BC557B P 45V 100A 200M:	1	TH 108 208 308 001 002
JM0227	TR MPS2369 N 15V 200MA 500M	3	TH 101 201 301 102 202 302 103 203 303
JM0273	TR 2N5551 NPN 160V 0,6A	2	TH 107 207 307 109 209 309 110 210 310
JM0301	TR BFQ232 N 65V 300MA 1GHZ TO-126	19	TH 106 206 306
JM0302	TR BFQ252 P 65V 300MA 1GHZ TO126	19	TH 105 205 305
JM0307	TR BFQ262 N 65V 400MA 1GHZ TO-126	12	TH 104 204 304
JM4305	TR BST84 N 200V 250MA 250MS SOT89	12	TFH 001
LM0777	IC TDA8444 6-BIT OCT.DAC DIL-16	15	ICH 002
LM0803	VIDEO AMPLIFIER HA11533	19	ICH 001
QK0851	TAP CONN RTM 1,3/5/8.002	1	QH 005
QK0930	PIN STRIP 1X04 2.5 VERT	2	QH 007
QK1236	ROW CONN 1X16 2.5 VERT STG LOCK	3	QH 004
QK1600	CRT SOCKET FOR 17" SONY	17	QH 006
QT0217	GLIMM LAMP 65V 6*16MM	3	SGH 001 002
SE2282	JOHTO SMH 447B PN49058	6	H
SE2305	JOHTONIPPU RGB 44BL PN49072	18	H
UC2814	MAADOITUSLIUSKA 445G	12	H
UC2816	HÄIRIÖSUOJAN KANSI 445G	16	H
UC2817	JÄÄHDYTYSLEVY LG4095 / 445G	14	H
UC3424	KIINNITYSJOUSI PN48999 447B	2	H
UC6533	HÄIRIÖSUOJA 447B PN303094	23	
UC6534	KANTALEVYNSUOJA 447B PN201180	17	
UG0290	TUKINASTA PN43827	2	
UP0118	JÄÄHD.LEVYN ERISTE PN48998 KERAM.	8	H
WC0308	MKK PZ RURALR AB3,5X9,5 SFS2759	1	H
WN0157	NIITTI CHOBERT RIVET 1125-0404	2	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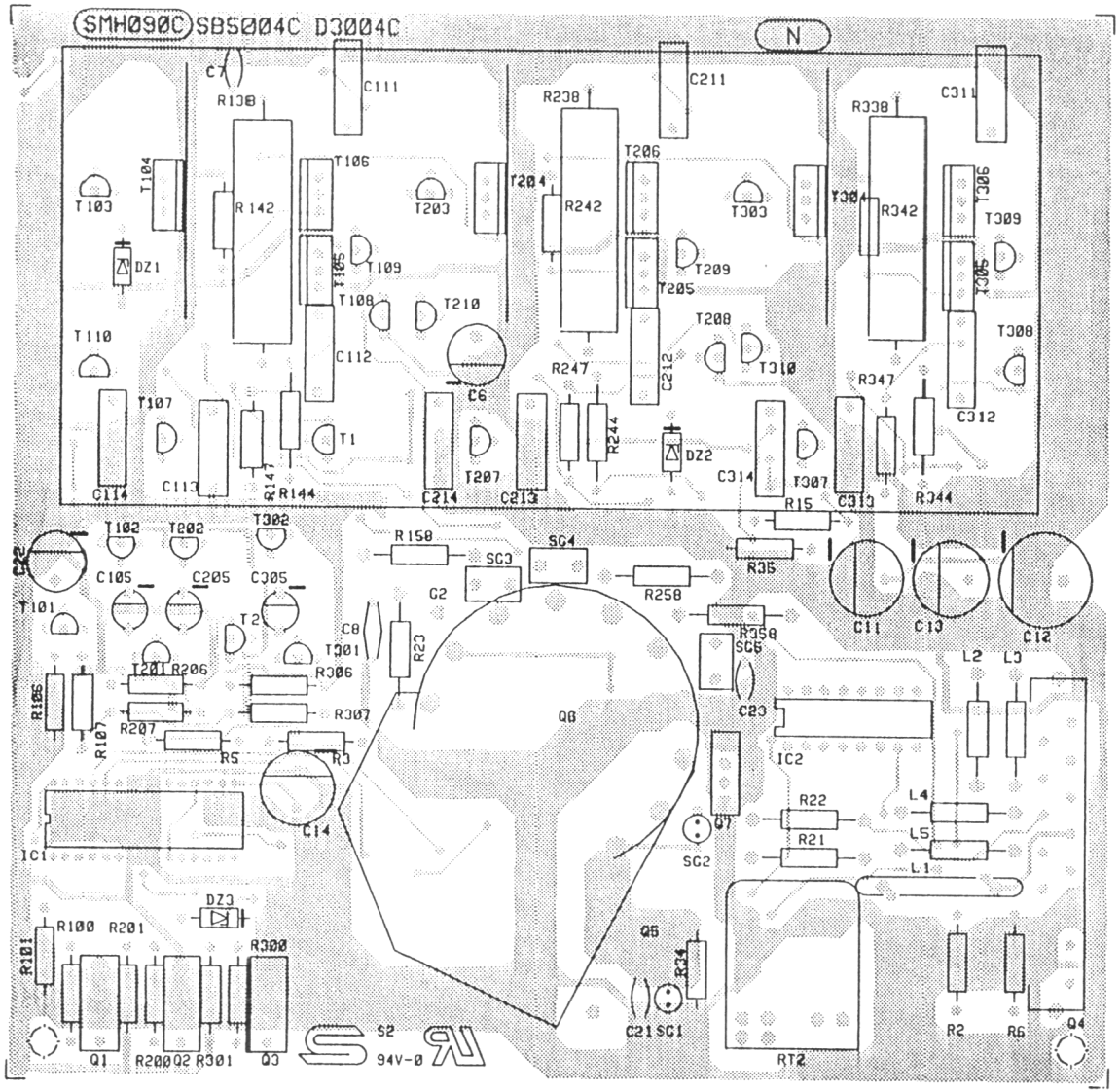

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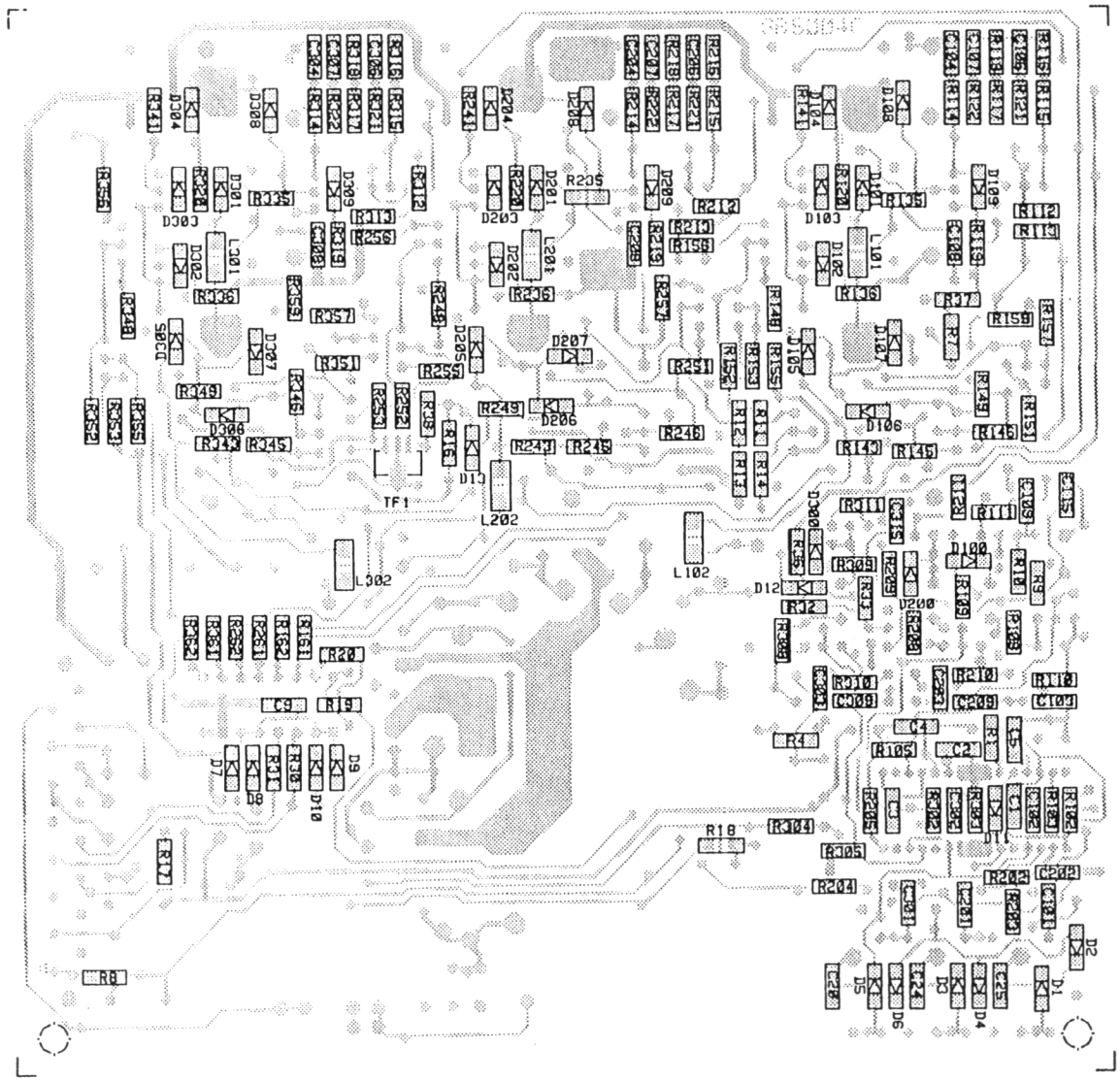

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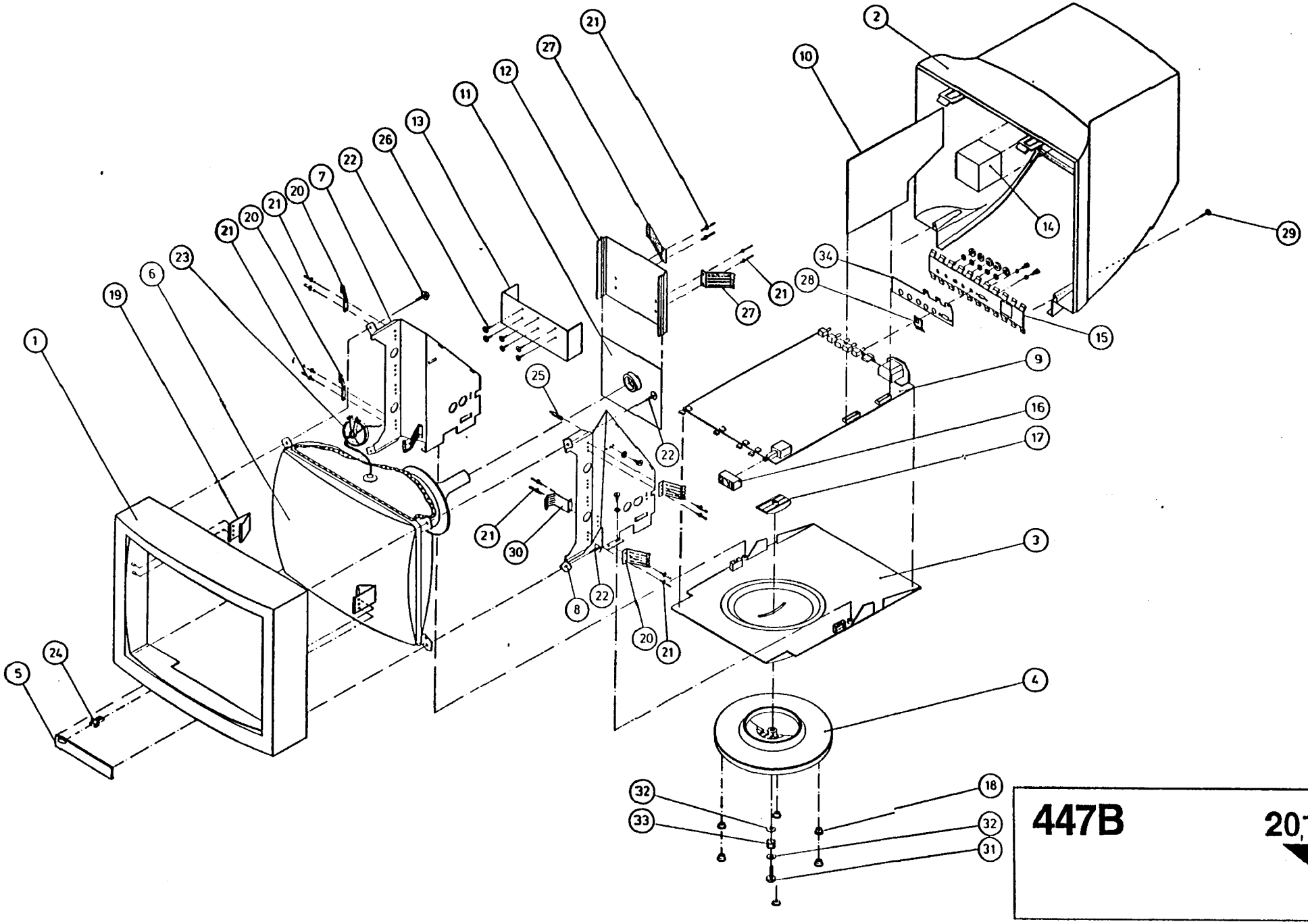

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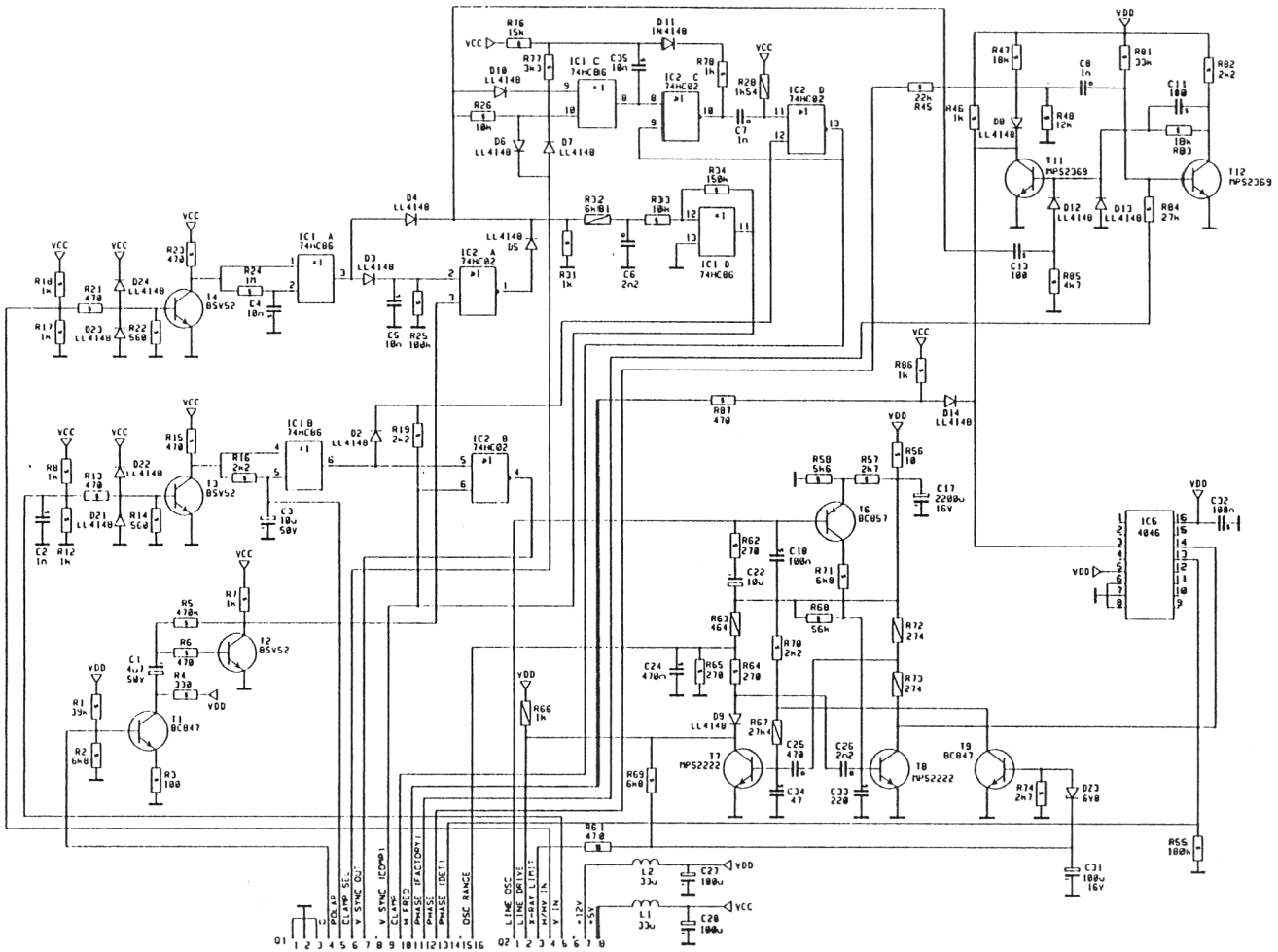
CODE	DESCRIPTION	PG	ITEM NO

SMY016:

AA0681	CF RES 0W25 2K2 J	1	RY 082
AC8625	CHIPRES 0W12 10R J	1	RY 056
AC8649	CHIPRES 0W12 100R J	1	RY 003
AC8659	CHIPRES 0W12 270R J	1	RY 065 072 073 064
AC8661	CHIPRES 0W12 330R J	1	RY 004
AC8665	CHIPRES 0W12 470R J	1	RY 006 013 015 023 062 021 061
AC8667	CHIPRES 0W12 560R J	1	RY 014 022
AC8669	CHIPRES 0W12 680R J	1	RY 047 048
AC8671	CHIPRES 0W12 820R J	1	RY 075
AC8673	CHIPRES 0W12 1K0 J	1	RY 007 008 012 017 018 045 031 078
AC8681	CHIPRES 0W12 2K2 J	1	RY 016 070 019 081
AC8683	CHIPRES 0W12 2K7 J	1	RY 057
AC8685	CHIPRES 0W12 3K3 J	1	RY 077
AC8689	CHIPRES 0W12 4K7 J	1	RY 074
AC8691	CHIPRES 0W12 5K6 J	1	RY 058
AC8693	CHIPRES 0W12 6K8 J	1	RY 002 051 071
AC8697	CHIPRES 0W12 10K J	1	RY 026 033 069
AC8701	CHIPRES 0W12 15K J	1	RY 076 084 086
AC8707	CHIPRES 0W12 27K J	1	RY 067
AC8711	CHIPRES 0W12 39K J	1	RY 001 085 087
AC8715	CHIPRES 0W12 56K J	1	RY 068
AC8721	CHIPRES 0W12 100K J	1	RY 025
AC8725	CHIPRES 0W12 150K J	1	RY 034
AC8727	CHIPRES 0W12 180K J	1	RY 055
AC8737	CHIPRES 0W12 470K J	1	RY 005
AC8745	CHIPRES 0W12 1M0 J	1	RY 024
AG3365	MF RES 0W5 464R F	1	RY 063
AG3401	MF RES 0W5 1K00 F	1	RY 066
AG3419	MF RES 0W5 1K54 F	1	RY 028
AG3481	MF RES 0W5 6K81 F	1	RY 032
AG3489	MF RES 0W5 8K25 F	1	RY 046
AG3543	MF RES 0W5 27K4 F	1	RY 052
AG3551	MF RES 0W5 33K2 F	1	RY 083
CB4163	CHIPCAP NP0 330P J 50V	2	CY 013
CC4200	CHIPCAP X7R 1N0 K 50V	1	CY 002
CC4320	CHIPCAP X7R 10N K 50V	2	CY 004 005 035
CC4855	CHIPCAP Y5V 100N Z 50V	3	CY 011 018 034 032 031
CC4895	CHIPCAP Y5V 470N Z 25V	3	CY 024
CG2425	PPRCAP KP 470P J 63V	2	CY 025
CG2505	PPRCAP KP 1N0 J 63V	2	CY 007
CG2585	PPRCAP KP 2N2 J 63V	2	CY 006 026 008
CG2623	PPRCAP KP 3N3 H 63V	3	CY 014 015
CN0258	ELCAP 4U7 M 50V	1	CY 001
CN0308	ELCAP 10U M 50V	1	CY 003 022
CN0372	ELCAP 22U M 50V	3	CY 033
CN2521	ELCAP 100U M 25V	2	CY 027 028
CN2759	ELCAP 2200U M 16V	5	CY 017
FJ0429	CHOKE 33UH 10% AXIAL	4	LY 001 002
JF0025	DI 1N4148 75V 200MA 4N	1	DY 011
JF4005	DI LL4148 75V 150MA 4N	1	DY 010 002 003 004 005 006 007 008 009 012
JH0096	ZDI BZX55B5V6 5,6V 0,5W 2%	1	DZY 003
JH4109	ZDI BZX84C5V1 5.1V 0.35W 5%	3	DZY 001 002
JM0253	TR MPS2222A N 40V 600MA 300M	3	TY 007 008
JM4104	TR BSV52 N 12V 100MA 400M:	3	TY 002 003 004
JM4105	TR BC847B N SOT 23	2	TY 009 001
JM4114	TR BC857B P 45V 100MA 150M:	2	TY 006 005
LM4004	IC 74LS123D MONOST.MULTIVIBR.SO16	5	ICY 003
LM4006	74HC02 4X2 INPUT NOR I	3	ICY 002
LM4105	IC 4046B PHASE-LOCKED LOOP SO-16	6	ICY 005
LM4208	IC 74HC86 2-INPUT EXCL. OR SO-14	4	ICY 001
LM4410	IC ICM7555 GEN.PURPOSE TIMER SO-8	6	ICY 004
QK1544	PIN STRIP 1X16 2,54 HOR	6	QY 001



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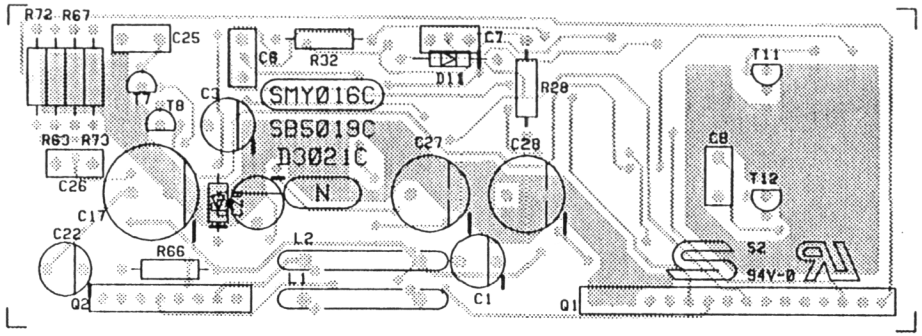

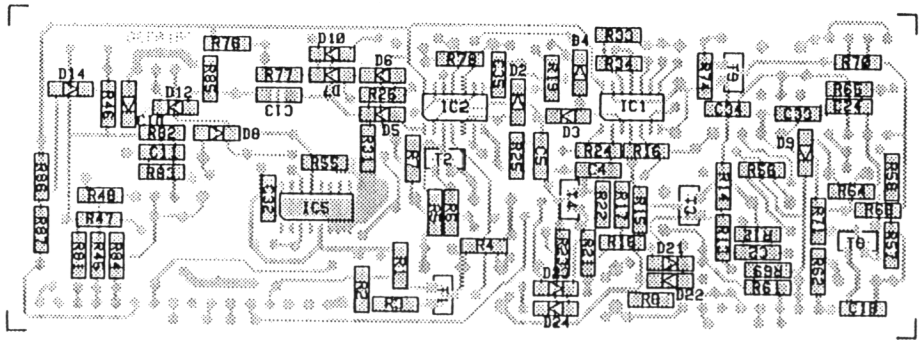

SMY016C SB5019C

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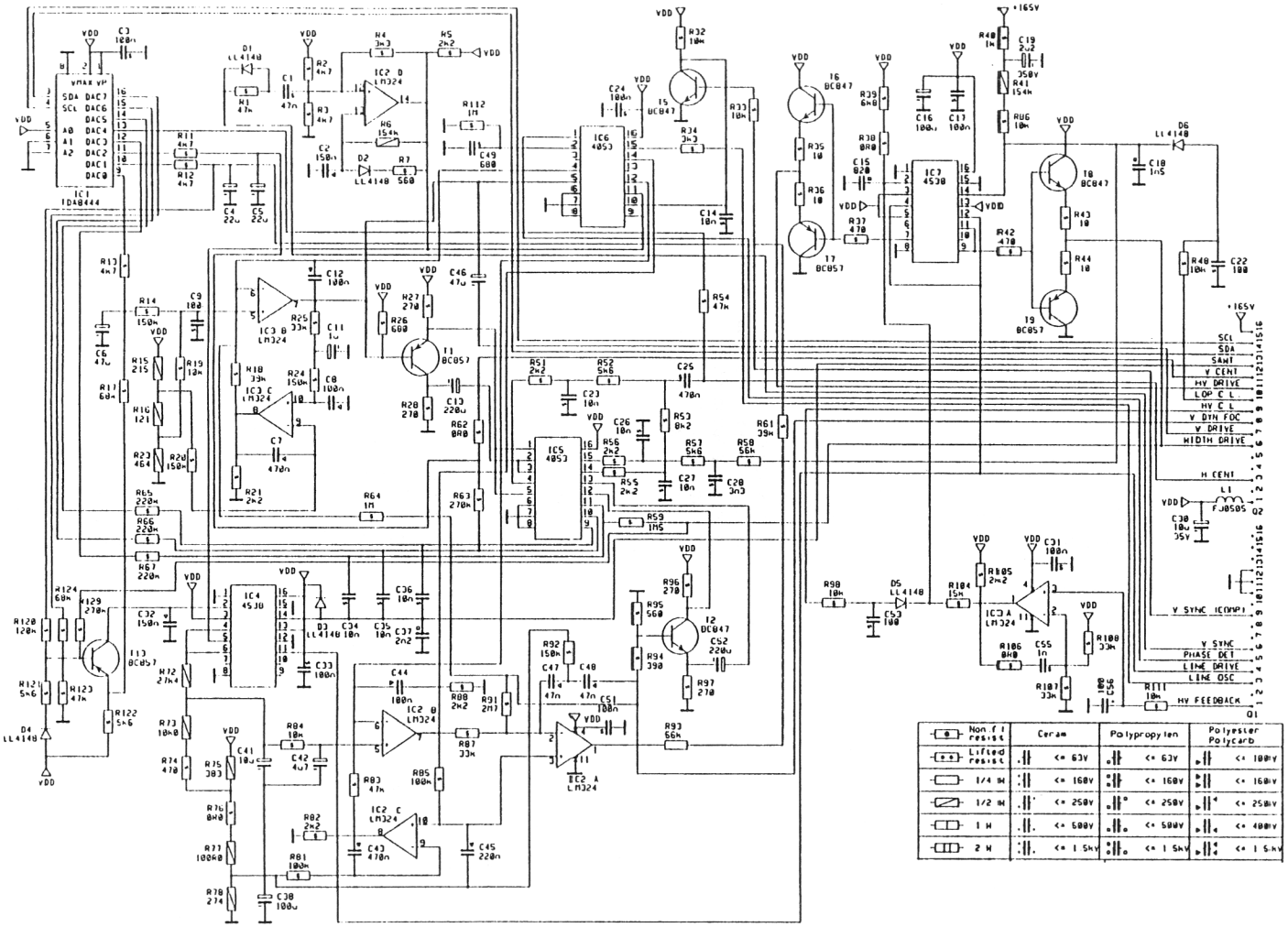
CODE	DESCRIPTION	PG	ITEM NO

SMZ018:

AC8669	CHIPRES 0W12 680R J	1	RZ 026
AA0715	CF RES 0W25 56K J	1	RZ 093
AC8665	CHIPRES 0W12 470R J	1	RZ 037 042 074
AC8663	CHIPRES 0W12 390R J	1	RZ 094
AC8659	CHIPRES 0W12 270R J	1	RZ 027 028 096 097
AC8667	CHIPRES 0W12 560R J	1	RZ 007 095
AC8633	CHIPRES 0W12 22R J	1	RZ 048 098
AC8625	CHIPRES 0W12 10R J	1	RZ 035 036 043 044
AC8693	CHIPRES 0W12 6K8 J	1	RZ 039
AC8727	CHIPRES 0W12 180K J	1	RZ 018
AC8729	CHIPRES 0W12 220K J	1	RZ 065 066 067 083
AC8731	CHIPRES 0W12 270K J	1	RZ 063
AC8739	CHIPRES 0W12 560K J	1	RZ 106
AC8725	CHIPRES 0W12 150K J	1	RZ 024 092
AC8723	CHIPRES 0W12 120K J	1	RZ 120
AC8713	CHIPRES 0W12 47K J	1	RZ 001 054
AC8715	CHIPRES 0W12 56K J	1	RZ 058
AC8717	CHIPRES 0W12 68K J	1	RZ 017
AC8721	CHIPRES 0W12 100K J	1	RZ 081 085
AC8755	CHIPRES 0W12 2M7 J	1	RZ 091
AC8761	CHIPRES 0W12 4M7 J	1	RZ 064
AG3619	MF RES 0W5 154K F	1	RZ 006 041
AG3543	MF RES 0W5 27K4 F	1	RZ 072
AG3501	MF RES 0W5 10K0 F	1	RZ 073
AG3465	MF RES 0W5 4K64 F	1	RZ 016
AG3633	MF RES 0W5 215K F	1	RZ 022
AG3673	MF RES 0W5 562K F	1	RZ 023
AC8799	CHIPRES 0W12 0R0 JUMPER	1	RZ 038 062 076
AG3301	MF RES 0W5 100R F	1	RZ 077
AG3343	MF RES 0W5 274R F	1	RZ 078
AG3357	MF RES 0W5 383R F	1	RZ 075
AC8711	CHIPRES 0W12 39K J	1	RZ 061
AC8709	CHIPRES 0W12 33K J	1	RZ 047 025 101 107 108 087
AC8685	CHIPRES 0W12 3K3 J	1	RZ 004 034
AC8673	CHIPRES 0W12 1K0 J	1	RZ 045 103 040
AC8681	CHIPRES 0W12 2K2 J	1	RZ 005 021 051 082 088 056 055 105
AC8689	CHIPRES 0W12 4K7 J	1	RZ 011 012 002 003 013
AC8691	CHIPRES 0W12 5K6 J	1	RZ 052 057 121 122
AC8697	CHIPRES 0W12 10K J	1	RZ 032 033 046 084 102 111 086
AC8701	CHIPRES 0W12 15K J	1	RZ 104
AC8695	CHIPRES 0W12 8K2 J	1	RZ 053
AG3457	MF RES 0W5 3K83 F	1	RZ 015
CG2545	PPRCAP KP 1N5 J 63V	2	CZ 018
CG2585	PPRCAP KP 2N2 J 63V	2	CZ 037
CG2485	PPRCAP KP 820P J 63V	2	CZ 015
CC4895	CHIPCAP Y5V 470N Z 25V	3	CZ 025
CN0308	ELCAP 10U M 50V	1	CZ 041 030
CC4360	CHIPCAP X7R 22N K 50V	1	CZ 055
CN0258	ELCAP 4U7 M 50V	1	CZ 042
CC4855	CHIPCAP Y5V 100N Z 50V	3	CZ 003 017 022 033 053 051 031 024
CK2626	PESCAP MKT 100N K 63V	2	CZ 008
CK2544	PESCAP MKT 47N K 63V	2	CZ 047 048
CK2464	PESCAP MKT 22N K 63V	2	CZ 012 044
CK2663	PESCAP MKT 150N J 63V	3	CZ 002 032
CK2704	PESCAP MKT 220N K 63V	3	CZ 045
CC4400	CHIPCAP X7R 47N K 50V	2	CZ 001
CN0204	ELCAP 2U2 M 50V	1	CZ 021 054
CK2784	PESCAP MKT 470N K 63V	3	CZ 011 007 043
CN0207	ELCAP 2U2 M 350V	3	CZ 019
CN0519	ELCAP 220U M 16V	2	CZ 013 052
CN2521	ELCAP 100U M 25V	2	CZ 016 038
CN0372	ELCAP 22U M 50V	3	CZ 004 005
CC4260	CHIPCAP X7R 3N3 K 50V	2	CZ 028
CB0673	CERCAP N150 100P J 50V	1	CZ 056
CC4320	CHIPCAP X7R 10N K 50V	2	CZ 014 023 027 034 035 036 026
CN0423	ELCAP 47U M 50V	2	CZ 006 046
LM4111	IC 4538BT	5	ICZ 004 007
LM0777	IC TDA8444 6-BIT OCT.DAC DIL-16	15	ICZ 001
LM4406	IC LM324 QUAD OP-AMP SO-14	5	ICZ 002 003
LM4101	IC 4053B MUX/DEMUX ANAL.3X2-CHAN	7	ICZ 005 006
QK1544	PIN STRIP 1X16 2.54 HOR	6	QZ 001 002
JM4114	TR BC857B P 45V 100MA 150M:	2	TZ 007 009 004 013 001 010
JM4105	TR BC847B N SOT 23	2	TZ 005 006 008 011 002 003



	Cer.m	Polypropylen	Polyester Polycarb
Non r.f resist	<= 63V	<= 63V	<= 100V
Lifted resist	<= 160V	<= 160V	<= 160V
1/4 W	<= 250V	<= 250V	<= 250V
1 W	<= 500V	<= 500V	<= 400V
2 W	<= 1.5kV	<= 1.5kV	<= 1.5kV

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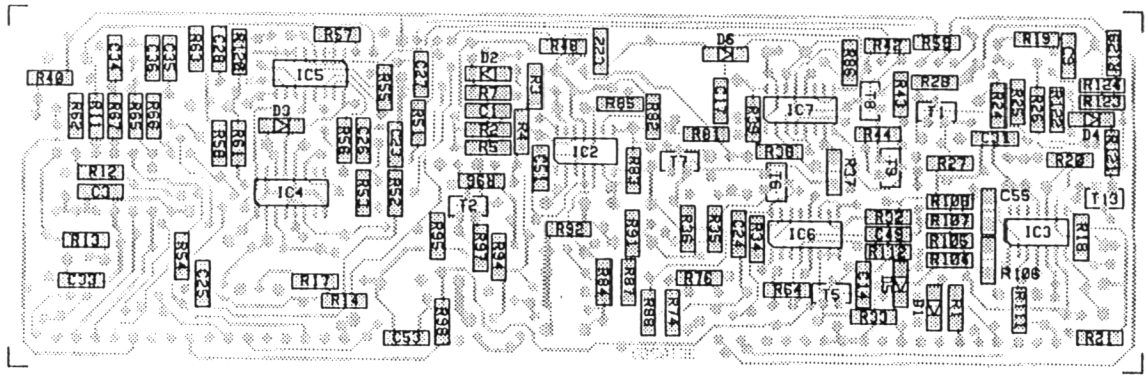

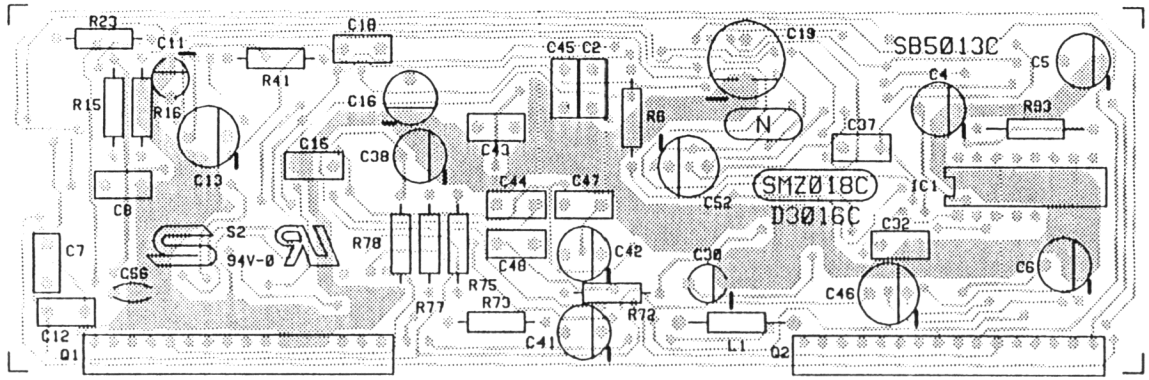

SMZ018C **SB5013C**

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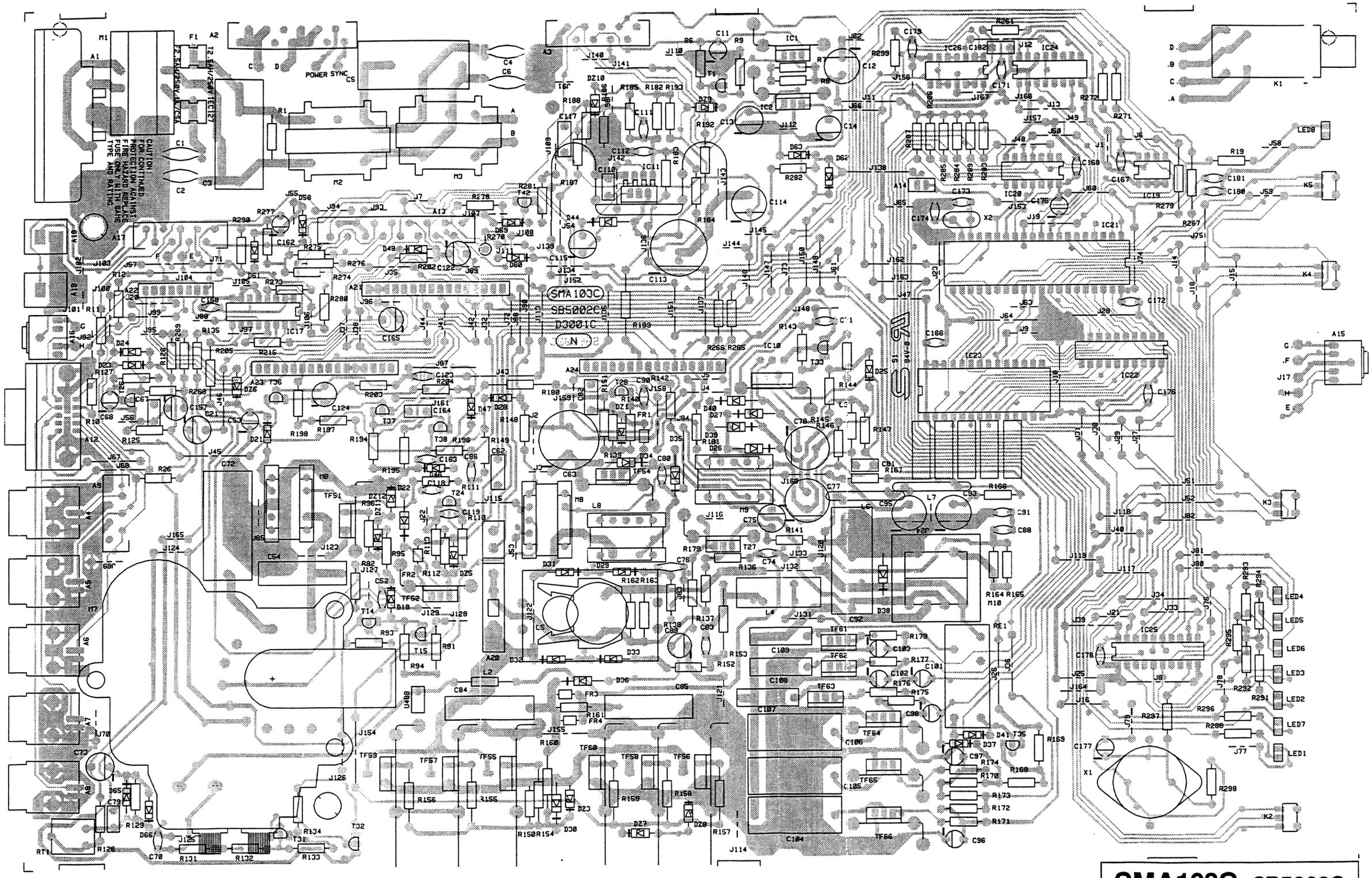

SMA103C SB5002C

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SMA103C 51001C

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